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Nation's BUSINESS

MARCH 1951

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Nation's Business



PUBLISHED BY
CHAMBER OF COMMERCE OF THE UNITED STATES

VOL. 39

MARCH, 1951

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NATION'S BUSINESS for March, 1951

**A NEW Idea
in Heating**

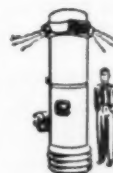
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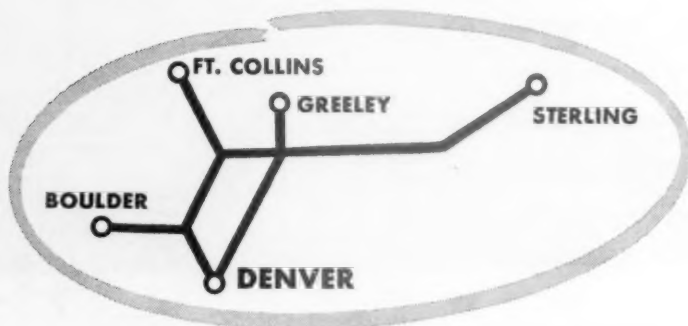
The Denver Industrial Districts have necessary utilities, paved roads adjoining, good industrial trackage.

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FOR 25 years **JACK B. WALLACH** has been analyzing and anticipating economic trends. Because of this he is asked frequently to predict what business conditions will be like in the months ahead. This is exactly what we asked Wallach to do for us.

However, Wallach pointed out that prediction is usually difficult and that it's always much easier to write a review. So we agreed to let him do a preview of a review of 1951—and that's what he's done.

Except for an occasional magazine article, Wallach keeps busy running the Retail News Bureau, a reporting service which he founded in 1930. And until the New York *Sun* set last year, he was its business editor. Now he does a column for the New York *World-Telegram and Sun*.

MARCH is traditionally linked with taxes. At least it seems to be so with us, as a run through our back March issues will attest. And this year is no exception. You'll find our tax story on page 37. It's by **ARTHUR W. HEPNER**, who has been writing magazine articles for 15 years—or ever since his last year as a student at Harvard.



However, this isn't all that Hepner has done in that time. Among the more formal aspects of his postgraduate history, he reports, was a stay with the *St. Louis Post-Dispatch*, assignment as London correspondent for the Columbia Broadcasting System, and a tour as Nieman Fellow at his alma mater for the academic year, 1945-46. There was also a series of documentary chores for movie producer Louis de Rochemont.

Despite his versatility, Hepner is essentially the home-loving type,

still being a resident of Manhattan where he was born some 36 years ago. With this fondness for Gotham goes an interest in music, writing, of course, and getting into arguments with friends and acquaintances. This may help to explain why he collaborated with a composer - friend on a music appreciation book for children and with other Nieman Fellows on a volume that examines the American press with some amount of critical attitude.

THERE'S no telling where a writer will set up shop. One famous novelist took to a castle, others



have settled down in garrets or in cabins in the wilderness. NEILL C. WILSON, who has turned out this month's short story, follows in no man's tracks. He elected a

cherry orchard in Sonoma County, Calif., where his office is a room in a tank house. He believes he is the only writer who has a typewriter that writes under water—1,800 gallons of it are in the tank overhead. As the supports are reported to be not too strong, he may yet find his enthusiasm for such a retreat dampened—as well as his typewriter, unfinished manuscript and all.

If the deluge ever comes, Wilson probably will return to some of the activities which he thought he had given up, such as running the Grand Canyon in Arizona with a two-oared skiff. Or climbing Mt. Shasta—alone, because nobody was handy for company—in order to have a 14,161-foot-high box seat for a solar eclipse. Another time he lost his pants on a train in Burma and almost found himself pantless, penniless and ticketless 400 miles from his ship. The pants were grabbed through a car window while he slept. Fortunately a train guard saw the theft and recovered them.

He still wonders what a shy, modest tourist would do if caught in such an embarrassing spot.

WHEN HY RUBIN, the illustrator for "Tough to Beat," was a high school student in New York some years ago, an instructor asked his class to tell him, individually, what profession each intended to follow. Rubin announced that he wanted to be an illustrator. At that, the instructor scratched his head and replied: "All I can tell you is to learn as much about as many dif-

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ferent things as you can, but devote most of your attention to people."

That advice and his own interest in people have combined to make characterization Rubin's professional forte and probably account for his selection by the *Saturday Evening Post* as the illustrator for all the Clarence Budington Kelland serials and the Alexander Botts stories by William Hazlett Upson.

He also has been represented in other leading magazines.

However, Rubin has two other major interests, apart from his family and his profession. One is symphony concerts; the other, his activities with the Alumni Association of the Boys' Club of New York.

It was at the Boys' Club that he won a scholarship to the National Academy of Design when he was 14.

IF THE word "forestry" seems to crop up unduly in the career of **CHARLES ELLIOTT**, it's because he has been exposed to the subject ever since his undergraduate days at the University of Georgia. He has served with the National Forest Service, his home state's Department of Forestry, the National Park Service and the Georgia Department of Natural Resources.

From 1943-49 he was director of the Georgia State Game and Fish Commission.

Somehow Elliott has managed to mix his outdoor life with writing and is the author or coauthor of seven books on conservation, as well as many articles and short stories.

When this issue appears, he will have taken on an assignment as field editor for *Outdoor Life Magazine*.

WHEN winter comes to the Great Lakes, it roars in with a fury that ties up shipping with ice that's sometimes 14 feet thick. It's then that the icebreakers of the U. S. Coast Guard swing into action, running interference for the ore ships and other vessels hauling vital industrial cargoes.



A ship, like the one which **PETER HELCK** has depicted on the cover, is built to smash her way through seven feet of ice and to open a lane 70 feet wide, adequate to take care of the largest of the Great Lakes ore carriers.

MANAGEMENT'S WASHINGTON LETTER

✓ **DO YOU WANT PARITY**—prices you get for your goods, services matched to prices you pay?

So does everyone else. Usually—

Farmers get it by law.

Labor gets it through pay raises, cost of living adjustments.

Business gets it by adjusting costs, price tags to maintain margin between them.

Consumers get it by shopping or holding back.

But today, while Government promises parity to farmers, labor, consumers, it does two conflicting things:

As biggest consumer, it creates materials and labor shortages which increase costs.

Through controls, it orders producers and distributors to hold prices down.

That's why parity and controls won't work together. Why consumers won't get parity—they get the bill.

So consumers won't get parity. They'll get the bill.

✓ **PRICE CONTROLS** stimulate—don't check inflation in present stage.

Sharply rising costs, past performance shows that, if goods are held back, the Government relaxes the freeze order, that prices will continue to rise under control attempts.

That's why threat of controls reduced supply of goods, increased demand, brought rush orders, speculative stockpiling.

So warehouses bulge with consumer goods. There's little doubt some of this merchandise is stored to await higher prices, that some will find its way into black markets.

Whether controls ultimately are a good thing or not, they are bad in the beginning. Because American people read newspapers, hear broadcasts.

✓ **WAGE CONTROLS** have some anti-inflation effect. But not much.

Controlled are wage rates—not take-home pay, not total volume of payrolls.

Longer hours, overtime premiums, government-approved "equalizing" raises—labor's parity at work—and a larger labor force mean bigger payrolls.

Thus there's more money in consumers' hands than ever, more effective demand

for goods. This means more inflation.

What wage stabilization does do is to prevent or reduce labor raiding by competitive bidding among employers.

✓ **UPGRADING**—THAT'S HOW wage hikes will be made during soft freeze.

It's easily—and necessarily—done during big build-up.

Millions of men, women entering shops learn trades, machine operations. As they learn, their pay moves from beginners' rates to journeymen's.

And in expanding business there's plenty of room—and necessity—for upgrading older workers given more responsibility.

That's why it's nearly impossible to stabilize even rates of wages.

Note: Collective bargaining heads out the window for the duration. Government must pass on wage issues now, probably will take over grievances.

✓ **LOOK FOR TAX** boost of about \$7,000,000,000 instead of \$10 billion Administration asks.

Tax bill will become law in May or June. Unless all-out mobilization there's slight chance for administration-proposed second tax step of \$6,500,000,000 this year.

Corporation tax rise will be retroactive, cover all of '51. Higher excises, personal income rates will cover last half only.

There's possibility, but not strong, that personal incomes rates will be spread over more than last half.

Administration will battle for full \$10 billion—as its main anti-inflation weapon.

Its aim: Trim more out of people's pockets than pay raises put in, thus cut effective demand for scarce goods.

That's principal element of the "sacrifices" that pop up unidentified in Washington speeches.

Administration's plan is to put blame for inflation on Congress if legislators fail to raise \$10 billion in taxes.

But lawmakers will sidestep that one by pruning two or three billions out of the budget.

Congressmen will find plenty of room for budget cuts. For example:

In it there's \$269 million for rural

MANAGEMENT'S WASHINGTON LETTER

electrification—an activity dropped during World War II. White House asked for it at same time copper use was cut.

Budget also asks for \$500 million for farm-price stabilization in period of promised farm-price boom.

✓ **WHO PAYS THE MOST** income taxes? The little fellow—so the story goes.

But does he? Not individually. Not proportionately. Only in volume.

Survey shows tax liability of 52,314,095 men and women in less than \$6,000 income group was \$9,523,514,000.

That's as much as was paid by all other income groups put together.

But it's only \$163 per taxpayer in the less than \$6,000 group.

In the \$6,- to \$10,000 income group the liability jumped to \$1,127 per taxpayer.

Taxpayers in the next higher group owed an average of \$3,389. The next, \$16,100; next, \$100,240, and in the top bracket \$1,151,421.

Add about 15 per cent to survey figures to bring them up to current (but not coming) tax level.

✓ **SCARE BUYING** pattern for consumer goods easily could be reversed some merchants say.

It's been based on belief that things will be hard to get—but buying runs haven't seriously depleted stocks. Stores find their sources, with few exceptions, abundantly supplied.

Now tremendous inventories in consumers' hands overhang retail markets.

One big outlet last month had three times television volume of year ago.

Yet it bought—while filling that demand—less than half the sets offered by distributors.

That's why some merchandisers wonder if they're in the middle—between abundant supplies and abundantly supplied customers.

What's in these huge stocks of goods already in consumers' hands? Everything on which there have been recent runs—

Sheets, pillow cases, automobiles, men's shirts and clothing, silverware, stoves, refrigerators, laundry equipment, kitchen wares, television, tires.

"We're buying from hand to mouth," re-

ports head of one big department store.

"Despite the fact that buying has been exceptionally heavy there are very few things we can't get promptly.

"The attic might turn out to be our biggest competitor this year."

✓ **WATCH FOR SALES**—as a peephole into dealer inventories.

Increased advertising, off-price sales, trade-in offers are signs a merchant has more supply than his customers have demand.

✓ **SOME STORES SPECULATE** on hard goods. But they can't take chances on style lines.

That's why you see sales clearing out southern wear just before summer lines of same weights, similar styles, are put on display.

Ready-to-wear business moves only with change. Resort wear doesn't look same as summer wear to customers. More important: It doesn't look fresh to sales force.

✓ **WAR'S DEMANDS** bring changes in materials use pattern. That's a point to keep in mind in connection with long-range planning.

Good example: Aluminum. Current use is four times prewar. Compares with 20 per cent rise in steel producing capacity.

And Government has asked aluminum industry to work out plans more than doubling present installed capacity.

New capacity brings stronger effort to market output after war-use ends.

Campaign after World War II brought rise of aluminum use in construction from eight per cent of low prewar production volume to 18 per cent of much greater postwar output.

Aluminum also has crowded into copper's electrical wire business.

Biggest problem in expanding aluminum production is power. It takes ten kilowatts to make a pound of it.

Another change brought by defense demand is in production ownership. Before war Aluminum Company of America was nation's sole producer of primary aluminum. Now there are five.

✓ **JOHN L. LEWIS** turns from semantics to another science to combat "the thrusts to be made against us."


The coal miners' leader is worried about inroads of oil, gas on coal.

So he's turning to laboratories to slow this trend, find new uses for coal.

That's why he's assessed his members \$20 per man. Assessment will bring in five to eight million dollars, most of

it to be used for market development.

Note: Assessment comes out of the first four pays which include miners' latest raise.

 **HAVING TROUBLE** keeping up with government orders, regulations, press releases?

You can get on National Production Authority's mailing list, receive up to five copies of each order free.


If you want NPA's regulatory material and press releases ask to be put on List 1. If you want regulatory material only, ask to be put on List 2.

In either case address request to U. S. Department of Commerce, Division of Printing Services, Attention E. E. Vivian, Room 6225, Washington 25, D. C.

For Economic Stabilization Agency's regulations and releases, address request to Public Information Division, ESA, 4th Street and Adams Drive S.W., Washington 25.

Better still, if you want to know about all orders, regulations, other releases bearing on mobilization, issued by all agencies, let U. S. Chamber of Commerce do a briefing job for you.

Write to Nation's Business at 1615 H St. N.W., Washington 6, ask to be put on Chamber list for mobilization information. No charge.

 **IF YOUR MACHINE** operators work on piece rates it would pay them to wear ear muffs.


Experiment discloses 12 per cent increase in speed when ear protectors are worn in a noisy weaving room.

Another shows pedals are used most comfortably—and efficiently—when they are seven inches below seat level, and placed so operator's knee angle is 110 degrees.

Still another shows red light interferes with night vision less than any other color.

These are findings among many made from experiments to determine human capacities, how best to utilize them.

Navy asked Tufts College to compile results—some of which may apply to your designs, machines. Tufts has produced "Handbook of Human Engineering Data for Design Engineers." You can get a copy from Tufts College Bookstore, Medford 55, Mass. Price is \$5, postpaid.

 **MECHANICAL COTTON** picker does away with 85 to 90 per cent of hand labor.

But it won't pick strawberries, nor chop cotton, nor shovel out a stall.

These things take hand labor. Farm

MANAGEMENT'S

WASHINGTON LETTER

labor is short, and getting shorter.

Growers may be nation's best prospects for your products this year, since they will escape much (if not all) the price squeeze city folks will bear.


In past year, prices received for farm products rose 28 per cent, while growers' cost went up 10.

U. S. farms never before have been better equipped with mechanical gadgets.

But like the cotton picker these gadgets only partly displace hands.


From 35 to 40 per cent of farmers' gross cash income is derived from livestock and livestock products. Tending animals still is hand work.

Adding to farmers' labor problem is fact that migratory workers are deserting fields for factories.

 **TEN YEARS AGO** U. S. thought little about inflation—unless it was to wish a little of it would come along.

Now inflation is savers' biggest worry. Probably that's biggest difference in stock market outlook now, compared with decade ago.

Here's pattern of last war: Dow Jones industrial average hit low of 121.4 in 1939. It dipped to wartime low of 92.2 in 1942. Then began a steady climb. War-time high was reached in 1945, at 195.8. But in 1946 it jumped to 212.5. Last month it was about 254.

 **BRIEFS:** Restriction against use of natural rubber in floor coverings doesn't mean much—most of it is made from synthetics, reclaimed rubber. . . . Tinless tin cans are on the way, at least for some products. Oil packers test sheet steel cans made with plastic cement seams to save tin-bearing solder. . . . New airport under construction at Leopoldville, Belgian Congo, will have runways 9,840 feet long (with provisions for extension to 14,760 feet). That's jet bomber, B-36 size. . . . Employing women workers for the first time? Better check with your state labor commissioner on hours, working conditions. Twenty-seven states have statutory bases for female working conditions. . . . Double check your income tax return this time. Internal Revenue will audit all returns on income of \$25,000 or more.

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By My Way

R. L. DUFFUS



Crumbs of comfort

THESE are indeed difficult times but I see by the papers that this year no lady is likely to have to stand hours in line to buy herself a pair of nylon stockings and nobody of either sex is likely to have to put up with a brand of cigarettes he prefers not to smoke.

The king business

KINGS get salaries and allowances, just like other folks. King George VI of Britain seems the best paid—he receives \$1,164,000. King Haakon VII of Norway has to struggle along with \$141,620. Royalty in Denmark, the Netherlands and Greece are in between. But if I were going into the king business I believe I would apply for one of the smaller posts. I don't want power, I just want enough money to live on and pay the palace guard. For about \$100,000 a year I'd gladly reign over some small, imaginary country.

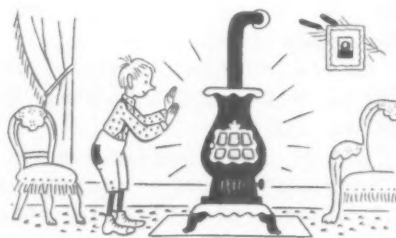
The horse thief passes

THE LEBANON (N. J.) Vigilante Society celebrated its hundredth anniversary of stalwart opposition to horse stealing early this year and prepared to go out of business. I don't know how many of the old anti-horsethief associations, as they were more generally called, still exist. Phil Stong, in his "Horses and Americans" (published 1939), remarks that American settlers generally set up such an organization as soon as they had got themselves a church and a school. Horse stealing, though deplorable, greatly enriched our literature; indeed, as Mr. Stong says, if all the stories were true "there would not be an honestly owned horse in the United States." I do not suppose horse stealing has died out because people have grown more honest. The real reason seems to be that there is no place to go with a horse after one has stolen him. Perhaps a person may sigh for the good old days,

even though crime is involved; automobile stealing, it seems to me, is a distinct comedown from horse stealing. Nobody can make a picturesque villain out of a man who runs off with another man's car. He just gets sent to prison, as was the case with a man I read about this morning who had been arrested more than 20 times for this particular offense. But that is the way with modern life. The more improvements we introduce the less romantic our existence becomes.

Big city village life

WE HAVE again been passing a few winter weeks in an old-fashioned residential hotel in the big city, only a few blocks from what some people call the crossroads of the world. On the whole the place seemed a little quieter than our home in the country, and the hotel community—the clerks, bellboys, porters, elevator men and occasional neighbors on our own and other floors—seemed more like a small town than the lively commuting village in which we usually live.



Ye olde coal stove

ANOTHER sign of spring in the good old days was when father took down the stovepipe and removed the parlor stove from the parlor. Our parlor stove was a coal burner, and if you gave it a good shaking in the morning when you got up it would have the parlor good and warm by suppertime. You could not put your feet in it, as you could in the oven of the kitchen stove, but it was mighty

cozy and as long as you stayed near it the winter wind could howl and the thermometer could descend below zero and you didn't mind. But father—or Pa, as we called him in our family—certainly minded taking down the stovepipe. No matter how careful a man was in taking down the stovepipe he was certain, sooner or later, to get a load of soot down the back of his neck. Or the front. We children were usually thoughtful enough to go for a walk while this was happening.

The years have gone by and today we have no parlor and no parlor stove. We have a living room which we also use as a dining room. Our oil furnace doesn't have to be taken down; it is merely "serviced." It seemed to me that a lot of work had been done away with, but my wife says not at all; the work has just been farmed out. Two different sets of men appear, one set to clean and service the burner, another set to remove the old filters and install new ones and service the blower.

If I had to do these things myself I am sure that the rest of the family would want to go out for a walk. But I don't. I don't get soot down my neck, back or front. I don't get my hands and face dirty. I just turn the heat up when I want it and down or off when I don't. And this is lucky, for I am not the rugged pioneer type. I just like to be comfortable.

Anyhow, good wishes

MARCH is a little late, or a little early, to be talking of Christmas cards, but sometimes our family does think of them at that time. For instance, we have just learned that the lovely card with the picture of the old cathedral, signed (as far as we could make out) "Grut and Bringle" really came from our good old friends, George and Bertha Poundfield. We are sorry we missed their eggnog party, not knowing who was giving it, or where, but with the passing of time the regret is less keen. We intend to send the Poundfields an Easter card, carrying good wishes from two persons whose names they will probably make out to be "Rollig and Lapiz Lazulia."

Reading to "escape"

MY WINTER "escape" reading has included James Ramsey Ullman's "River of the Sun," published this year; James Norman Hall's "The Far Lands," which appeared in 1950; "Kingdom of Adventure: Everest," edited by Mr. Ullman and

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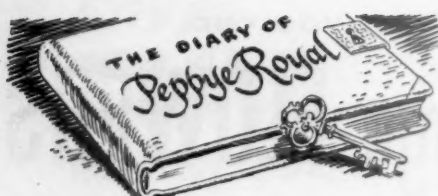


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Feb. 5th—To Great Britain's Exhibition of Eccentrics, where are made little Machines that "work like mad & do Nothing;" reminding one of that busy time of statesmanship prior to Public Election.

Feb. 6th—Numbers of our young men go forth in draft. It is prayed they go forth to strengthen the possibility of Peace, and thus do well by us all.

Feb. 10th—Comes my cozen seeking a Position, all to-ruffled by one he now holds. In time will he learn that to secure Better Employment, one must employ himself better at the Present Task.



Feb. 12th—I find Television Shows mightily improved; not so the advertising. Scientific study of How Often & How Long a product need be mentioned to serve it best, urgently requires doing.

Feb. 16th—This day saw plans for my newe workshope in Los Angeles. Here craftsmen will endeavour to duplicate in Design & Quality that which hath been My Pleasure these many years.

Feb. 17th—Few Competitors of mine fail to make Good Merchandise, or give Good Value for the prices they ask. If Patrons can not obtaine My Royal Furniture, may I suggest they seek another worthy Line.



Feb. 22nd—A lofty enterprise, Alcoholics Anonymous, hath been aped by Divorce Anonymous. Now comes an association of former mental patients called Recovery Incorporated. When & If organized, my lot shall be cast with Avoirdupois Unlimited.

Feb. 23rd—Have oft been twitted anent the title of our Complaint department; namely, Quality Control Dept. 'Tis not the name but the Sincerity & Speed of righting errors made that counts. And learning therefrom how not to repeat the same mistake.



Feb. 26th—To the Marts where viewed divers Pretty Wares For The Home. The sad fate of the Human Form vexes me: hands being used for ash receptacles, heads for milady's pins, torsos for drinking vessels. No Chair Of Mine shall resemble an anatomical extremity, rather shall It accomodate Same adequately.

Feb. 27th—At the Printer's, much joyed by newes of the completion of My Catalogue, a Brilliant Volume, which doeth credit to All, My Advertising Counsellors as well. It is available to those of My Honorable Patrons who but poste request for their Copies.

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published in 1947; and "Sailing Days on the Penobscot," by the late George S. Wasson, originally published in 1932, republished in 1949. Thus I have been up the Amazon and through its jungles; I have sailed with the legendary South Sea islanders to Easter Island; and I have also navigated the Penobscot and adjacent waters in "pinkies" and other obsolete craft. I have lived, vicariously, an athletic and perilous life without at any time, for that reason, missing a meal. And many a time, for an hour or so—and this is the reason for escape reading—I have forgotten what was in the headlines of my morning newspaper and remembered only that men are daring and that some adventures come to a fairly happy ending. Not all, even in these books, for men died in them. But some.



Hitler the artist

SOME RELICS of the late Adolph Hitler, including a few bad paintings he did in his Vienna days, turned up in an auction gallery in Munich and—so the story goes—were about to be sold to an anonymous American for \$200,000 when the police interfered. It seems they had been stolen. The irony of the case is, as several students of Hitler's career believe, if the future Führer had succeeded in his art work he would not have felt it necessary to ruin Germany and wreck half Europe. It was the frustrated ego—the thing inside that makes some of us tick so loudly—that drove him into crime. Could he have known that his paintings would ever have sold for \$200,000, or half that sum, he might well have saved the world a lot of trouble by remaining an artist. The moral of this is, I think, that we should be kind to artists—and especially to bad artists. I wish Mr. Stalin would turn to painting. I'd take up a collection and buy some of his output.

"Made a long time ago"

THE EDITORS of *The Vineyard Gazette* of Edgartown, Mass., got to musing on the burning of a carousel (or merry-go-round) in Central Park, New York, and what

should be done to replace it. They thought this would be difficult because "a carousel is, by its nature, something that should have been made a long time ago." The way to have a carousel in the year 2001 is to make one now and lay it away. I suppose this goes for other things, too. There are some ideals, such as freedom, justice, kindness and love of country that are especially good because they were made a long time ago. I think Elizabeth Bowie Hough and Henry Beetle Hough (it was Henry who recently published an excellent book of journalistic reminiscences called "Once More the Thunderer") might develop the idea further.

Boots, boots, etc.

I ONCE studied under a professor of elocution who used to demonstrate elocution at its best—and he really was good—by reciting various poems. One of these was Kipling's "Boots," with its refrain:

"Boots—boots—boots—boots—
movin' up and down again!
There's no discharge in the war!"

There was something in the lugubrious rhythm that would have made any soldier hanker for the cavalry—or, in our own day, the air force or tank corps. I thought of this poem again when I read that the Army Quartermaster was in the market for 13,000,000 pairs of shoes and boots. But the evolution of warfare, with all its new horrors, has at least reduced the hardship of which Kipling wrote. Sometimes nowadays the infantry gets a ride. Which, heaven knows, it earns!

On the dental front

I AM ALWAYS a little afraid to go to a new doctor, because I figure that any ailment or defect a doctor doesn't find doesn't exist, and a new doctor may turn up with a new machine or something and find something the old doctor didn't. This goes for dentists, too. So when circumstances forced me to change dentists I was prepared to find that at best all my teeth had cavities and at worst that all would have to be extracted. My new dentist, a thorough man if there ever was one, went over me like an FBI operative. When he had finished he had photographs of the complete inside of my face, a plaster cast of my teeth (this looks a little like a modernistic sculpture entitled, *Dawn in the Sierras*), a full medical history and answers to such questions as am I nervous and how much fluid do I take in a day, including water, alcohol,

coffee and soda pop. He did not ask me whether or not I had ever been a member of the Communist party but I will say now—and I do not care who knows it—I have not been. (I once knew an old-fashioned Socialist though, with a red beard, who rode a bicycle.) When he had finished his inquiries he smiled and said: "Mr. D., I think this mouth has a bright future."



A boyhood March

MARCH used to mean the end of sliding and skating, but there were compensations in the fact that it meant the beginning of sugaring off and, if the West Branch was in flood, a chance to get drowned. Somewhere around this time, in Williamstown, Vt., there also occurred a school vacation. We were fortunate, indeed, as we more or less eager scholars thought, in that our village could not afford to provide more than 28 weeks of school. Around the middle of March—sometimes earlier, sometimes later—there would come up a warm wind in the night and by morning, with the brooks roaring and the snow vanishing under one's very eyes, we would know that winter was over. All in all, March was an exciting month for us youngsters. I didn't know that many grown people didn't like it.

The truth about spelling

EVERY now and then somebody says Americans can't spell as well as they used to, and asks why. The fact is, I think, that interest in spelling comes and goes. The Founding Fathers, judging by their uncorrected letters, weren't interested; they spelled every which way. Lincoln in his middle twenties was still making slips in spelling—"begining" for "beginning," for example. Noah Webster, whose spelling book sold by the millions, helped correct this situation, as did the old-fashioned spelling bee. But there remain many who just can't spell. My own cure for this is never to spell a word the way one first wants to: my instinct is to write "recieve"; I suppress the instinct and write "receive"—which, I beleive—I mean believe—is correct.

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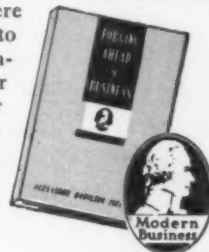
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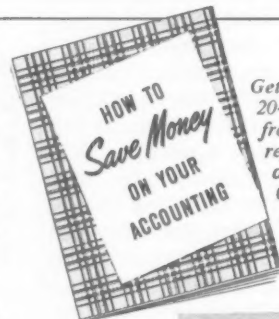
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The State of the Nation



Felix Morley

SINCE THE DAY it convened, two months ago, the Eighty-second Congress has been wrestling with an issue of the most profound and fundamental importance. It is, indeed, the greatest constitutional issue that the nation has faced since the Civil War.

That tragic struggle centered on a problem not definitely settled when the Constitution was drafted at the Philadelphia Convention of 1787. The debates of the Founding Fathers, under the chairmanship of George Washington, did not clear up the question of whether or not individual states would have the right to secede from the union that was being formed. The first purpose of the Constitution then written, as found in the Preamble today, was "to form a more perfect union." So inference was against the right to secede. But that opinion was only inferential and in 1861 there was good legal ground for the decision of those states that broke away to form the ill-fated Southern Confederacy.

Another fundamental issue—the one now to the fore—was also left in some doubt by the authors of the Constitution. Does the power to engage in war reside in the President or in the Congress? That question, in one form or another, has risen constantly in this republic, but never more sharply than during the past two months.

The undeclared war in Korea, and the possibility of a repetition of this disaster involving American boys in western Europe, have together precipitated congressional debate as significant as the arguments with which Calhoun, Clay and Webster shook the Senate in the days when the Civil War was brewing.

• • •

In a debate of this magnitude, and of such personal concern to every American, it is desirable to go back to the original sources to discover just what the men who wrote the Constitution thought and said about the current problem.

We know that they gave Congress the power "to declare war" (in Section 8 of Article I) as well as the power to appropriate the money necessary to sustain the armed forces of the United States. We also know that the Constitution (Section 2 of Article II) makes the President "Commander in Chief of the Army and Navy of the United States." It is in those potentially conflicting authorizations that the issue between President Truman and the opposition in the Eighty-second Congress is rooted. Did the men who actually wrote the Constitution anticipate that issue? To answer that question is to clarify thinking on the critical argument of today.

Fortunately there is much material, available in any good library, on the secret deliberations out of which the Constitution grew. The most valuable source is the careful daily journal of the

TRENDS



OF NATION'S BUSINESS

debates kept by James Madison and first published shortly after Madison's death in 1836. But there is much other important source material, from which the accuracy of Madison's journal can be checked.

There are the minutes of the Convention as kept by its secretary, William Jackson. There are less complete notes made by no less than eight of the delegates other than Madison. There are innumerable letters

and memoirs of varying reliability. There is contemporary newspaper speculation and also the diplomatic reports of foreign envoys who were assigned to discover what was going on. Finally, there are the famous "Federalist Papers," written by Madison, Hamilton and Jay immediately after the drafting of the Constitution as argument to win its ratification by the original states.

• • •

Examination of the records makes it clear that the Constitutional Convention never intended to give the Executive uncontrolled power to make war. That particular issue was thoroughly discussed during the sessions held almost daily in Independence Hall, from May 25 to Sept. 17, 1787.

Argument on the subject began almost as soon as the Convention had concluded the formalities of organization. On May 29, Edmund Randolph (Va.) submitted what was called the "Virginia Plan," emphasizing that the new Constitution must establish a central government "able to defend itself against invasion and encroachment." Nobody disputed this, but there was some division of opinion as to the location of the military power—whether it should be placed under the legislative or the executive arm.

That issue was raised on June 1, when both John Rutledge and Charles Pinckney, leading the South Carolina delegation, argued against giving "the power of war and peace" to the Executive. James Wilson (Pa.) maintained that these are primary legislative functions. Not until June 6 did any member assert that the Executive should have any authority in this field. On that day George Mason (Va.) argued persuasively that "the purse and the sword ought never to get into the same hands." If the Legislature controls appropriations, said Mason, then the Executive should control the military. Each arm should be secured against usurpation of power by the other.

Both the New Jersey Plan, placed before the Convention by William Patterson on June 15, and

the draft Constitution submitted by Alexander Hamilton on June 18, sought to compromise the issue. Hamilton's draft, though for the most part discarded, nevertheless paved the way for the eventual arrangement in regard to the war-making power. It gave the Senate "the whole power of declaring war." But the Executive, visualized by Hamilton as a "Governour to be elected to serve during good behaviour," would "have the direction of war when authorized or begun."

The Convention's instructions to its "Committee of Detail," or drafting committee, were that Congress should have power "to make war," "raise armies," "equip fleets" and also "to make treaties of peace or alliance." The Executive, however, was to be "Commander in Chief of the Land and Naval Forces of the Union." As returned to the full Convention, Aug. 6, the draft Constitution definitely specified that: "The Legislature of the United States shall have the power . . . to make war."

• • •

Final discussion of that clause took place in the plenary session of Aug. 17, 1787, and is summarized at some length in Madison's famous notes. He it was who moved that the verb "declare" should be substituted for "make," so that the Executive would have "the power to repel sudden attacks" when Congress was not in session. On Madison's motion, to replace "make war" by "declare war," only Connecticut and New Hampshire were opposed. Delaware, Georgia, Maryland, Pennsylvania, North Carolina, South Carolina and Virginia voted in the affirmative. Massachusetts abstained and New York and New Jersey had (on that day) no delegates present.

Unquestionably the historical record supports those present members of Congress who challenge the President's right to send troops overseas on his own initiative. Except for Madison's amendment the Constitution would have given Congress the sole power to "make," rather than just to "declare" war.

Some, at least, of the Founding Fathers did not at the time realize the importance of that small verbal change, on Aug. 17, 1787. For instance, Oliver Ellsworth of Connecticut opposed the alteration of "make war" to "declare war," but thought it immaterial because it is "more easy to get out of war than into it."

Today it seems easier to get into war than out. Therefore Congress should be expected to reassert aggressively its Constitutional right to scrutinize all administrative actions that might lead to war. This development is more logical because the Administration has acquired enormous spending power and, as George Mason warned: "The purse and the sword ought never to get into the same hands."

—FELIX MORLEY

The Month's Business Highlights



Paul Wooton

tation and will demand that controls be lifted as soon as possible.

Without knowing how long the present emergency will last, it is impossible to say how soon this may be or what additional controls may seem either necessary or expedient. However, those in charge of controls today have already demonstrated an attitude considerably different from that shown in World War II.

It is significant, for instance, that Eric Johnston has been emphasizing the need for production rather than the need for rationing. In this same vein, Charles E. Wilson has already allotted 250,000 tons of steel to be used in building steel mills to increase production. The fact that these mills will not be operative for three years implies that if those in authority believe the emergency will last that long, their bets are on expansion of industry.

In striving for production, rather than controls, these men are making a positive approach to our problem. Rationing is definitely a negative approach. Moreover—along with fixing prices and wages—it has the disadvantage of leading people to believe that the situation is under control. Actually such controls do not meet the basic difficulty, even if they work—and, with the black market know-how gained in the last war and not yet forgotten, it is doubtful if they would work very well.

Our real economic danger is inflation.

In the past ten years, the buying power of the dollar has slumped 40 per cent. Obviously, we face disaster unless this decline is stopped. But in a war economy, it is extremely difficult to stop. Certain monetary and fiscal controls might stop it but Congress shows no inclination to adopt them.

In ordinary times, a man in a factory which makes refrigerators can take his pay check down-

town and buy, say, a television set. The man who made the television set can buy a refrigerator, an automobile, or a washing machine.

But, with the country preparing for defense, the men who make these consumer goods are turning out bombsights, airplane engines, machine guns for defense. When they go to town on payday, they find little in the stores to buy. Soon they are bidding against each other for what little there is.

That way lies inflation. Price fixing which holds prices down is a temporary expedient at best. Rationing, intended to give everybody a fair portion of such consumer goods as are available, is another.

However, barring a fullfledged war, defense demands will reach a peak and then level off. Meanwhile, controls may hold the price line until increased production makes them unnecessary.

The Government's request for \$16,000,000,000 in new taxes has three purposes in mind. Most publicized, of course, is national defense. Second, is the desire to syphon off the additional buying power that the defense program generates. Third, is the support of Fair Deal measures, designed to help—and supported by—various population groups and useful in winning votes.

Apparently Congress has no intention of attempting to raise the \$16,000,000,000. There is even some question whether it really could be raised or not. Tax rates high enough to reach it might actually reduce the amount of revenue taken in. Neither the Treasury nor the taxing committees of Congress know just where this point of diminishing return may be. Some think it is 25 per cent of the national income—but they aren't sure.

Just the same, taxes will be higher and, because corporation rates can't be increased greatly without a resulting decline in output, the greater part of the new burden will have to come out of individual incomes.

The situation calls for a sharp reduction in nondefense spending, that is, the Fair Deal side of the



OF NATION'S BUSINESS



budget. Business men, bankers, labor and the general public are in a position to bring that about. If voters take a strong position against government nondefense spending, Congress will be quick to cut such appropriations. This applies as well to state and local government expenditures.

At the same time, it is important that individuals and businesses eliminate the less essential items from their expenditures.

No one is more concerned in maintaining the purchasing power of the dollar than those with savings, life insurance, pensions and other fixed interest investments. The result of thrift is being dissipated. The problem is to check inflation while production is being expanded. That will require political courage, a higher degree of public discipline and the highest quality of managerial ability.

Public demand for drastic steps to check inflation seems likely to result in approval of a congressional resolution along the lines suggested by the Joint Committee on the Economic Report. It directs the Federal Reserve to be guided exclusively by the needs of the economy and directs the Treasury to accept the rates on its securities prevailing in the market rather than expecting the Federal Reserve to establish artificial rates. The Federal Reserve has not given up attempts to control credit expansion and it has not agreed to act as an adjunct of the Treasury.

All of this sounds technical and remote but it is of the utmost concern to business and the public. Congress is not likely to ask the people to pay heavy taxes to check inflation and at the same time allow the Treasury to issue securities at artificially low rates when this means the release of funds to banks at a time when bank lending should be discouraged. To try to lock other gates against inflation and at the same time leave open the one through which additional created money can flow from the banks to the people for use in bidding up the prices of limited supplies of goods, does not make sense. In fact it would be a betrayal of public trust.

Capacity production, full employment and high income insure a high rate of business activity in coming months. Coupled with Johnston's plea for increased production, these things provide an incentive for all business to expand. This,

in turn, increases the velocity of the turnover of funds on hand. If the increased production of civilian goods calls for more plant and equipment, this means additional pressure on materials, equipment and labor supply for a period during which production does not increase. A more immediate method is to concentrate on increasing production with existing plant and equipment.

Even this will not be easy. Controls will hamper and handicap. With a larger percentage of inefficient workers and an increase in overtime, it will be difficult to keep costs down.

Probably the greatest hurdle, however, will be procurement of materials.

Fortunately, the price freeze found wholesale and retail inventories in most lines high in comparison with sales volume. Building up these inventories was one of the principal causes of expansion in commercial loans and the rise in prices.

International policy is linked to business as never before. Isolation is an unrealistic dream. On the narrowest basis of self-interest, this country must keep Russia from getting control of western Europe. With its populations, skills and natural resources in Russian hands, the great advantage we have in industrial power would disappear. Were Russian resources reinforced by those of western Europe this country would be in a precarious position, indeed.

You can regard it as certain that, if Russia or any one of its captive countries encroaches on any part of western Europe—and that includes Yugoslavia—we will go to war.

Public opinion would demand nothing less. As the world's melting pot, this country has strong emotional attachment for assorted mother countries.

More than 1,000,000 workers are now covered by contracts tied to the cost of living. One of the difficulties faced in trying to check the rise in living costs is the minimum-price floor under farm products. By law farm products are allowed to reach the parity level or the June, 1950, price, whichever is the higher. This means that the price freeze does not apply to grains, hogs, milk, chickens, potatoes, fruit and several food items.

Recent price increases in raw materials, nearly 50 per cent, were the sharpest on record.

Maine bankers, knowing many businesses never get started because of lack of risk capital, have pooled a small part of their resources to provide a source of venture capital. Under changed conditions individuals are not so willing as formerly to invest in new enterprises. This grass roots program promises to be a boon for small communities.

—PAUL WOOTON



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CHEVROLET ADVANCE-DESIGN TRUCKS



Washington Scenes



Edward T. Folliard

THE pendulum of history is taking a mighty swing, and the men who probably see it best are the diplomats of Washington's Embassy Row.

They are among the ablest men of Europe and Asia, these envoys who live in the big mansions along fashionable Massachusetts Avenue and Sixteenth Street. They are the eyes and ears of their respective foreign offices, and they see and hear extremely well.

What is their view of American foreign policy at this momentous juncture?

It is a fact—and an almost incredible one, looked at against the past—that the chief anxiety of some ambassadors is not that the United States will lack boldness, but that it will be too bold; not that it will be an ostrich with head in the sand, but that it will be an eagle too quick with its talons.

This anxiety in Embassy Row does not necessarily reflect the true course of American diplomacy. It does show, however, what has happened in the western world since Washington became its heart and center. For now we have a situation almost the reverse of that in the 1930's; now it is the Europeans who worry about "entanglement," and who talk about a "cockpit" not of their own making.

• • •

The British and French, of course, are gratified that the United States has abandoned isolationism and become an outright ally. They appreciate the economic and military aid this country has given them and will continue to give them. But mixed up with all this is a deep concern about the wisdom of American policy, a feeling that maybe it has become too "dynamic."

The British feel that the United States ought to put less reliance on force and show a greater willingness to negotiate diplomatic settlements. This feeling is not limited to the quarrel with Communist China; Attlee and Bevin have long yearned for another Big Four conference which would bring Russia to the council table.

The French worry lest the United States, in rearming the Germans, again make Germany a threat to France, and at the same time provoke Russia into a drive across the continent.

It is true that Washington has less faith in "diplomatic settlements" than has London. Being younger and perhaps less sophisticated in international affairs, the United States would like to have the other fellow come to the council table with clean hands; or, at least, with a reputation for keeping his word. Stalin does not qualify in either respect, although there are ways in which he could move in that direction.

As for Mao Tse-tung, Communist boss of China, there is some hope here that he can be lured away from the Soviet orbit, but not much—certainly not as much as there is in London.

The German problem—that is, the question of bringing West Germany into General Eisenhower's international army—probably will take some time to work out. There are a good many obstacles, including, ironically, German "pacifism." The prospect of a delay, however, is not altogether unwelcome, because it would serve to still France's fears about both Germany and Russia while she is building up her own army and her self-confidence.

Some day, though, the Germans will be in line with other nations of the West; and then, truly, the free world will have what General Ike is striving for in Europe: "a wall of peace."

The redoubtable Ike, in his visit here last month, answered a question that has bothered a lot of people, including Senator Taft of Ohio. It is: "How do we know that the sending of American divisions to Europe won't provoke Russia into an outright war?"

Ike's answer was that the international army won't be a threat to any nation; and that if Russia charged that it was, and drew her sword, she would merely be using it as an "excuse." He also put it this way: If Russia started a war, citing the international army as the *casus belli*, it could only mean that she was bent on war anyway, excuse or no excuse.

• • •

Looking back on Ike's visit, one of the things that most impressed me was the welcoming group at the National Airport. Besides President Truman, the



OF NATION'S BUSINESS



Cabinet and Pentagon brass, it included the ambassadors of all the other nations in the North Atlantic Treaty organization.

The presence of these diplomats, standing there in the snow and looking admiringly at Ike, was a reminder of that giant pendulum swing — America's transition from aloofness to a partnership with other Atlantic nations, a defensive alliance bringing together nearly 350,000,000 people and an industrial

potential far greater than any that might ever be brought against it.

Wilhelm Munthe de Morgenstierne was there. He is the Ambassador from Norway and also dean of the Washington diplomatic corps. A tall, friendly man of 68, he knows the United States almost as well as his own country. He also knows something about isolationism, American brand and Norwegian brand.

Along with the rest of Scandinavia, Norway long trusted to a policy of neutrality to protect her from Europe's wars. Then in 1940 the Germans, with the help of a fifth column, overran the country. The Norwegians decided after this that they had been pursuing a bankrupt policy. In 1949 they cast their lot with the Atlantic Treaty powers, unterrified of the fact that Norway has a common border of 122 miles with the Soviet Union.

Ambassador Morgenstierne doubtless played an important part in Norway's fateful decision. No man was better able to inform his government of what might be expected of the United States, anchor country of the great alliance. He had been watching American policy evolve for the better part of his career.

The Norwegian diplomat first came to Washington back in 1910, a 22-year-old attaché fresh from the University of Norway and Oxford. He left after two years to go to Antwerp, but came back as America plunged into World War I.

He was here for the bitter League of Nations fight, with its cries of "foreign entanglements," "willful men," and "marplots," and also for its aftermath—the beginning of the Harding Administration.

That was a time of high hopes and stirring words, that brief period of "normalcy." Harding, opening the Washington Arms Conference of 1921, spoke of a "war-weary world, hungry and thirsty for better relationship"; of "humanity crying for relief" and of a "world staggering with debt . . . shocked by wanton destruction." The

thing to do, he declared then, was to "outlaw war."

Charles Evans Hughes, then Secretary of State, backed up this idealism with a bombshell proposal. The United States was ready to scrap new warship hulls on which \$330,000,000 already had been spent. That was concrete altruism. The other powers had nothing to sacrifice but blueprints, and so the arms-limitation treaty was signed.

It was hailed here and abroad as "the greatest step in history to establish the reign of peace."

• • •

Ambassador Morgenstierne—he was only a secretary of legation at the time—left Washington in the early 1920's to serve elsewhere. In 1934 he came back again, this time to be Minister.

He found the United States thoroughly disgusted with the rest of the world. Most Americans were convinced that going into World War I had been a mistake. The failure of Britain, France, Italy and others to pay their war debts was partly responsible for the disillusionment. A contributing cause was an investigation by a Senate committee, which sought to show that Wall Street and the "munitions barons" had helped push us into the European conflict in 1917.

Morgenstierne had come from a Europe that once again was feverishly rearming and reverberating with the talk of another war. He found Congress busy with schemes to keep us out of a future maelstrom.

In 1934 came the Johnson Act, forbidding the flotation of loans in the United States for foreign governments that had in effect repudiated earlier loans. In 1935 Congress adopted the first Neutrality Resolution. As revised and strengthened two years later, it banned loans, outlawed the shipment of arms to any nation engaged in war, forbade the arming of American merchant ships, and prohibited travel by Americans on the ships of belligerents.

Nor was this all. There was serious talk of a referendum on war, an affirmative vote by the whole American people before our puny Army and neglected Navy would be allowed to strike. Nothing came of this fantastic proposal. The very fact that it was put forward, however, indicated the country's mood.

If any legislator had suggested that Gen. John J. Pershing be sent to Europe to head up an international army that would include Americans, he would have been regarded as a lunatic.

Well, that's how far we've come. Some think we've traveled too far; hence the "great debate." This promises to go on for a long time and to figure in the 1952 political campaign. Senator Taft, indeed, says it may well be the "determining factor" in that campaign.

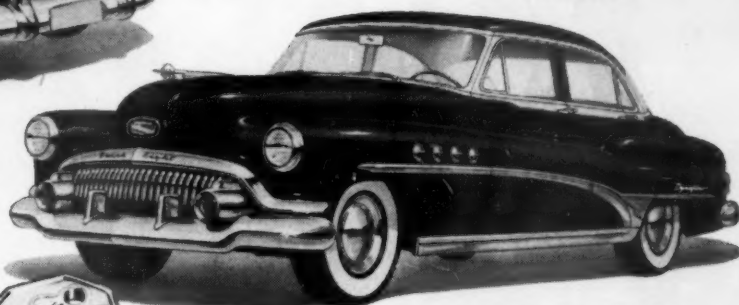
—EDWARD T. FOLLIARD

Cadillac

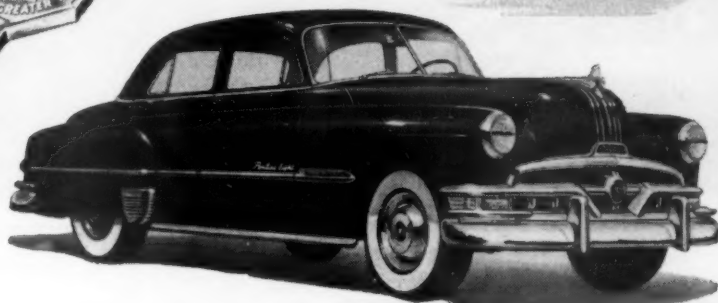


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MEMO

*Here's a preview
of this year's
economy for
those who
cannot wait till
January, 1952.*

When 1951 is Over

By JACK B. WALLACH

THE FUTURE is always as unpredictable as your wife's new hat. On the other hand, writing a review of past events is a fairly simple undertaking. Histories, biographies, court decisions and the year-end editions of newspapers are written that way by people who have accumulated the facts.

I have written a good many such reviews of the business past myself—with good results. I also have tried my hand at predicting what would happen to business—especially retail business—in the future. Since I make no pretense at prescience and was not born with a veil, these efforts at soothsaying often have not been free of error.

So, facing the task of advising readers what business developments coming months might bring, it occurred to me that the chore would be easier and the results more precise if I could write this as a review rather than a prediction.

Accordingly I have written my review of the year 1951. The fact that I write it in March will not seem remarkable to people who have seen the Sunday editions of New York papers on out-of-town newsstands as early as the preceding Wednesday. I have the same sources of information they have.

Here then is the way 1951 stacked up to me—as viewed from the vantage point of January, 1952.

You'll remember that '51 began with a gentle excess profits tax that only too soon put a real bite on what was left after the bills, and other taxes, were paid. But that's not the whole tax story. Part of it was the sudden penchant for partnerships.

Not long after you had scraped up enough to

square accounts March 15 with your local collector of internal revenue, Congress was asked to add to your burden for the new tax year.

It decided that the excise taxes weren't discouraging spending as much as the times called for, and so old excises were increased and new ones added. Because they were once known as "luxury taxes," it came as somewhat of a jolt to learn what former necessities had been grouped with the dispensables.

Of course, as you long had expected and predicted, voluntary price control proved to be as practical as the honor system at a penitentiary. Rollbacks to January, 1951 were attempted but it was like shoveling sand against the tide.

To impose mandatory price controls the Government had to satisfy the Defense Production Act's clause requiring the President to slap on wage and price controls simultaneously.

To hardly anybody's surprise, that hurdle was cleared by freezing prices but "stabilizing" wages. This meant that labor agreed not to ask for boosts unless the cost-of-living went up, or it produced more, or its paid-up cardholders were getting restless.

Meanwhile, price control worked out just as you figured it would. Five cent candy bars got smaller, and ten cent cigars got shorter . . . or maybe just thinner. Fair-traded items remained price-fixed, but tooth-paste tubes began to look as if they were run over by a truck and jars became squatter.

Ice cream sodas were served in glasses that once held old-fashioneds and hamburgers had enough

bread crumbs in them to pass as bakery products.

Looking back now, you wonder where all the sheep were shipped. All-wool blankets were strictly "old stock" when you located them, and no carpet was complete without its rayon "blend." You noticed, too, that the blend sort of got the upper hand.

Soon the furtive gents you remembered from World War II were back. They knew where you could buy a genuine pre-emergency item in its original wrapping.

Perhaps it was a car still resplendent with gleaming chrome or a refrigerator unshorn of its gadgets and refinements—things that couldn't be acquired at the official, maximum price.

Still, the furtive brethren were not so numerous as the predictions at the end of 1950 would have led you to believe. You will recall that most such estimates were retracted early in '51.

Actually supply as a whole wasn't a brow-knitting civilian problem in 1951. Rather, the big business stumper was how to maintain sales volume when buying morale was lowered by stiff taxes and sobering prices.

Early in the year it became apparent that carried-over inventories from 1950 were more than ample to meet such demand as could be scraped up, and it began to occur to people that, if the previous year's surplus production was still on the shelves it was a little premature to begin to worry about what 1951 could or would produce.

THE next 12 months are going to be a headache for business, if the advanced views of a retail expert pan out. Here's what he sees ahead: prices frozen, wages stabilized; old excise taxes upped, new ones added, black marketeers again back in the field

Moreover, some industries had anticipated that defense orders would reduce their civilian output from 20 to 50 per cent. They learned during the year that although \$50,000,000,000 may be quickly appropriated for defense goods, trying to figure out what would be required for an undeclared war fought God-only-knew-where and under conditions that even pundits couldn't foretell led to a natural delay in placing orders for those same goods.

Another matter came strongly to light:

Easy credit terms in 1950 had made sales snowball to a stop marked "Regulation W," which, in October, 1950, had been tightened sufficiently to put credit sales in reverse within 30 days. They stayed there.

Retailers, who never run out of their stock in optimism, had calculated that when the credit boom ended consumers naturally would hold their spending stride but veer toward soft lines. Although not entirely disappointed, they had neglected to

allow for the consumers' heavy indebtedness. It wasn't until the fall of '51 that instalment remitters were free from the obligations they had so lavishly assumed.

Another error in retail calculations went unnoticed for a time. All year-end auguries in December, 1950, agreed that high employment and high wages would assure greater spending power. True, but—

Before employment rose to predicted levels, conversion to war work resulted in layoffs of varying duration. Moreover, there were displacements of labor. Workers moved bag and baggage to places where jobs were immediately forthcoming and where wages were most attractive.

During this transitional period, bare spots appeared on the employment picture. There was plenty of business in some areas and want in others. These developments produced what we like to call "spotty conditions" because the term explains all things to all inquirers.

Men who had had experience with this phenomenon in World War II days when their hair was on closer terms with their brows accepted it with resignation. As employers they rediscovered that it was easy to keep their organizations intact by stabilizing wages at figures that matched the competition's.

This wasn't the only "Fighting 'Forties" experience business men relived.

Before '51 had got well under way, the Government was practicing one thing and preaching another. Its workers were persuaded to stay on for longer hours, necessarily or otherwise, at proportionately higher pay.

At first this practice only affected private businesses in Washington and a few other government-center cities, but as the federal payroll acquired numerical growth, it put firms in many cities and towns to the expense of matching Uncle Sam's prodigality.

Disturbing, too, was the inconsistency of a Government declaiming its intention of cutting to the bone all nondefense spending and then turning around and padding its payroll. Eventually there were complaints in the matter, but by that time everyone had buckled down to the task of production.

Another bit of prodigality, one that could not be laid directly at the Government's portal, was the return of "ten-cent dollar philosophy." Business men became a bit less careful about spending money "which they wouldn't be able to keep anyway."

This familiar reaction to onerous taxes, however, didn't reach anything like the proportions it assumed when World War II black markets were flourishing. Once or twice during the year there was talk about rationing but it never got past the talking stage in most commodities.

Rationing, calmer minds insisted, only would induce the scarcities that must be avoided at all costs if inflation was to be checked noticeably. The Treasury Department rationed income on a more austere basis in late spring, and succeeded in whitening demand to a nice balance with supply.

Firms working on defense orders were placed on negotiated contract bases. This move not only expedited the processing of orders but eliminated the finagled bids which helped to run up World War II costs.

As usual, there was bitter with the sweet. War working firms didn't hesitate to upgrade workers to assure their constancy, and the taxpayer soon

(Continued on page 86)

If Robots Run the Works

By JOHN KORD LAGEMANN

LOGIC is like whisky, says the old Irish proverb. It's good for you a little at a time but dangerous in large doses. That's how you're apt to feel after listening to Prof. Norbert Wiener of Massachusetts Institute of Technology describe what logic can do to you when it comes out of machines that think a million times faster than the human brain.

Right now most of the country's robot geniuses are concentrating on secret military projects such as atomic energy, guided missiles, and plans for the global reshuffling of manpower and matériel before, during and after a major war.

But closely tied in with their military use is their even more revolutionary application to industry. By scheduling and controlling every step of any mass-production process, these fateful engines can switch out the human element entirely and make assembly lines completely automatic.

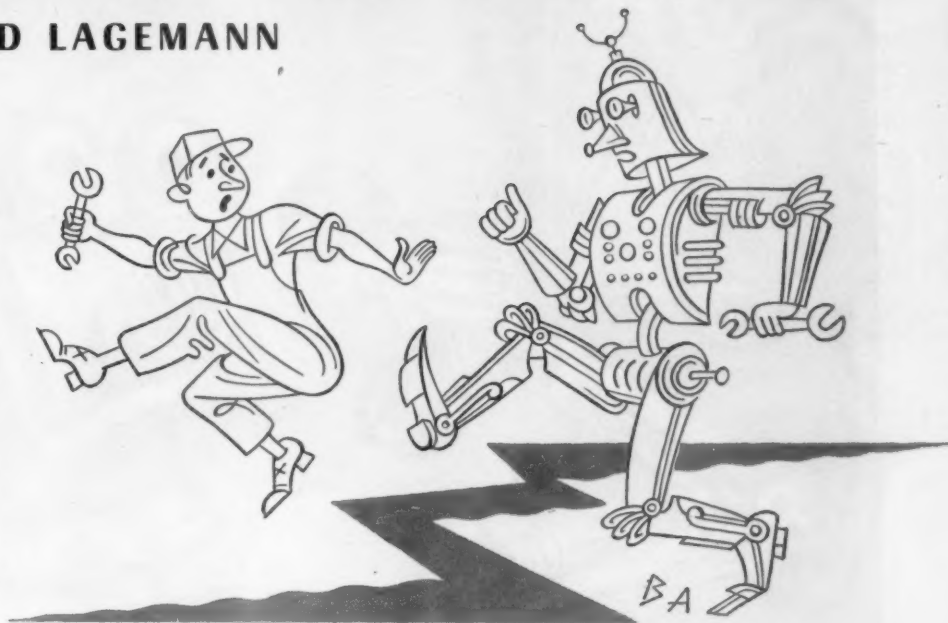
Sound farfetched? Professor Wiener and some of his colleagues in the engineering and electronics departments of M.I.T. assured me that the techniques for doing just that are no more mysterious than designing machines to aim an anti-aircraft gun, pilot a plane or, for that matter, play you a tune or sell you a drink.

A start has been made in oil refineries, chemical factories, steel rolling and wire mills, canneries and paper plants. In Detroit, the Ford Motor Company already has begun building the pilot plant for a completely automatic subassembly, while Chrysler and Willys-Overland are drafting plans for testing robot operation.

"We are now entering the second industrial revolution," says Professor Wiener. "In the first the machine displaced man as a source of power. Now man is about to be displaced as a control mechanism by machines which can make their own judgments."

How long will it take?

"To fill our manpower needs for an all-out war with Russia we can achieve automatic mass production in two to five years—about the



LOGIC applied to assembly lines through the use of mechanical brains may spell the end of manpower shortages for industry

same time it took to develop radar. If full-scale war is averted, we can proceed more cautiously to readjust the millions thrown out of jobs and achieve complete automaticity in, say, ten to 20 years."

On the new control mechanisms which may bring this about no one speaks with more authority than the roly-poly, cigar-puffing professor whose powers of concentration have become a legend at M.I.T. He moves down the long corridors to his cubbyhole office, one hand holding a book up close to his thick-lensed glasses while the other hand slides the rubber end of a pencil along the wall to steer him around the corners.

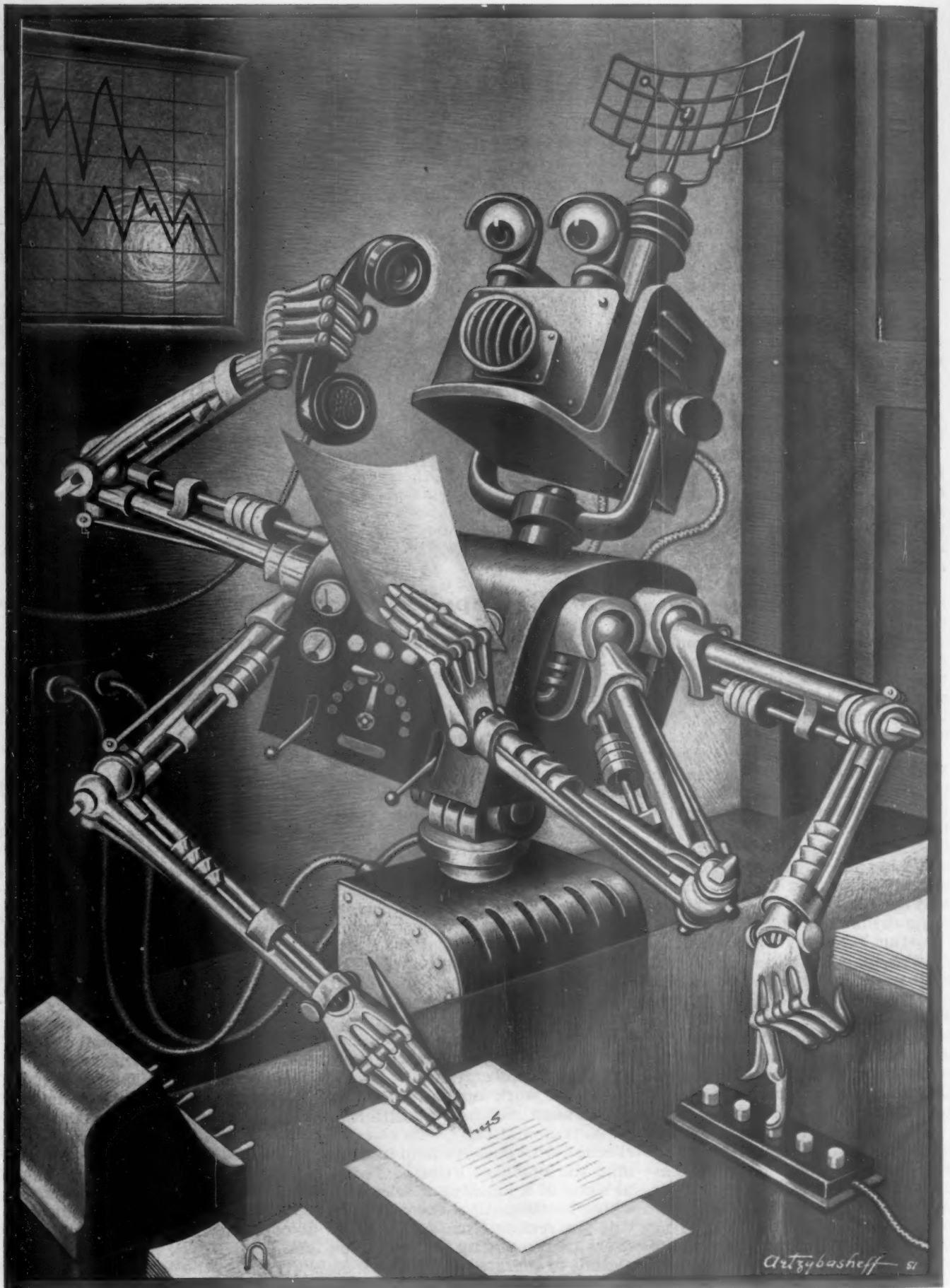
For his work on the predictor which aims and fires anti-aircraft guns automatically, he's been credited with decisive help in winning the Battle of Britain. Today he's one of a handful of scientists whose mathematical theories provide the recipes from which engineers are cooking up the new automations to operate our factories, do our thinking, and very possibly run our lives.

What gives these machines their power to change the world we live in? "Essentially it's a matter of

communication," says Wiener. "After all, control is nothing but the sending of messages which effectively change the behavior of the recipient." For the study of such control messages among men and machines, Prof. Wiener has coined the word "cybernetics" from the Greek word meaning "steersman."

The older alarm clock type of control apparatus could only communicate what it was told or "set" to do. But the new cybernetic giants use their heads. They observe the outside world through such sense organs as photoelectric cells, condensers, thermocouples and microphones. They not only take in new facts but memorize them in vacuum tubes and draw on past experience to make judgments which they pass on as orders to other machines. Most human of all, they size themselves up as they operate and modify their behavior to cope with unexpected emergencies.

This is the quality of critical self-awareness which Wiener calls "feedback"—the same faculty that enables you to dodge around obstacles while catching a train or scratch in the right place without



BORIS ARTZYBASHEFF

New automatons, almost as fantastic-looking as this one, may operate our factories, do our thinking, even run our lives

looking to see where the mosquito has bitten you.

The prototype of these protean machines is the large-scale electronic computer, a paneled assembly of tubes, wires and signal lights that would fill three or four rooms of your house. Problems are fed into the machine on magnetic tape. In a matter of minutes or hours it comes up with answers that would require weeks or years of human computation.

SUPPOSE you want to design a missile to intercept bombers flying at supersonic speeds and taking evasive action. A computer just completed for the Navy will build you a symbolic working model of both missile and bomber, test the missile under all likely conditions of combat and modify the design according to the results.

Another machine now on order will be able to duplicate the conditions of a land, sea and air invasion of the United States or any other country, and determine both the defense moves to be taken and the strategy of the invasion itself. Says James H. Kindelberger, board chairman of North American Aviation, Inc.:

"The time is coming when the defense of the United States will be pretty much automatic."

To tackle certain problems of design without the aid of such machine logic would be as laborious as trying to phone a friend in New York by dialing every possible combination of numbers until you happened to recognize his voice. It takes about 10,000,000,000 multiplications to compute the drag on a stick drawn through the water—simple compared with the labor involved in computing the drag on a new torpedo or jet plane. This is child's play to machines which can handle problems human beings couldn't tackle at all, not merely because life is too short but because no living brain can handle simultaneously the star bursts of equations which can be juggled in a battery of vacuum tubes.

Of the 50-odd such supercalculators scattered over the country, most have been paid for by the Government, all are employed at least part time on military problems that would astound readers of science fiction. The position of stars by which guided missiles may some day find their way to round-the-world targets are predicted years in advance down to the fraction of a second.

Like explosion patterns and rocket trajectories, our economic and political life is determined by

the interaction of complex forces on which we have bales of statistics. Hitherto the job of predicting from these data was too staggering to be thought of. But with computers that gobble up equations at the rate of almost 1,000,000 a minute, our nation can be conceived as a great machine whose movements may some day be analyzed, predicted and controlled. Even the human variables, tricky as they are, can theoretically be assimilated into a pattern of future behavior—provided we can calculate quickly enough.

Russia has joined the race to think ahead and think fast. Reports Prof. Wiener has received from colleagues in Europe indicate Soviet cybernetics are getting a lion's share of the country's research budget. For some military experts, war—as between the United States and Russia—is conceived as a kind of game to the death between giant automatons with victory going to the one which can keep a step ahead of the game.

From this concept it is only a short mental hop to the idea of a world bureaucracy which can predict and manipulate human behavior with such precision that its subjects will do exactly as they're told—without consciousness that they're being governed at all!

OF THE government agencies which are experimenting with high speed calculation to coordinate civilian activities with military strategy, Wiener says:

"They're not playing tiddly-winks. The attempt to exert mechanical control over human destiny is a dangerous and not too remote contingency."

But robot industry is something else again. In mechanical brains that replace human beings on purely routine jobs, Wiener sees the possibility of great good, provided that the displaced men and women find other more creative employment which allows them to use their human capacities to the full.

Farming is one such job for which Prof. Wiener has the highest respect. In the Yankee farmer and tradesman—lifelong friends and neighbors at his home in South Tamworth, N. H.—he finds the "universal" or all-around type of man, as opposed to the highly specialized "mass man" of the cities. The skilled mechanic in the corner garage is another all-around man whose ingenuity can never be built into a mechanical brain.

In Memphis, Tenn., a couple of years ago, Clarence Saunders, the originator of "Piggly - Wiggly"

chain stores, opened up an automatic supermarket which he called "Keedoozle." All you had to do was punch the right levers and pick up your groceries on the way out. It failed because it worked too well. Without the human element found even in self-service, shopping just wasn't as much fun. If machines can't sell a housewife a can of beans, they certainly aren't likely to sell her a hat or a dress.

MECHANIZATION has its limits in transportation as well as in distribution and personal services. Planes manned only by robot pilots can now take off, find their way to distant airports and make three-point landings even in fog. Train control has become more and more automatic and could readily be made completely so. But in plane or train, passengers always will prefer to have a human pilot on hand—just in case.

How about your own car? Will you some day set a mechanical brain to take you to, say, the Biltmore in New York, then crawl into the back seat and go to sleep? It's technically possible but not likely. Threading your way through the present-day maze of city streets to a particular address is a process which couldn't be standardized for machine control without completely rebuilding our street and highway system at an unthinkable cost. But on superhighways of the future you may be able to switch on an automatic pilot and relax while it guides your car to a particular terminus. A series of electron beams or reflectors built into each traffic lane would serve as tracks and give directions for steering, braking and acceleration. Far more likely, and more useful, would be collision-proof automobiles, completely surrounded by a shallow radar screen. With this device you couldn't hit another car—or a wall—even if you tried.

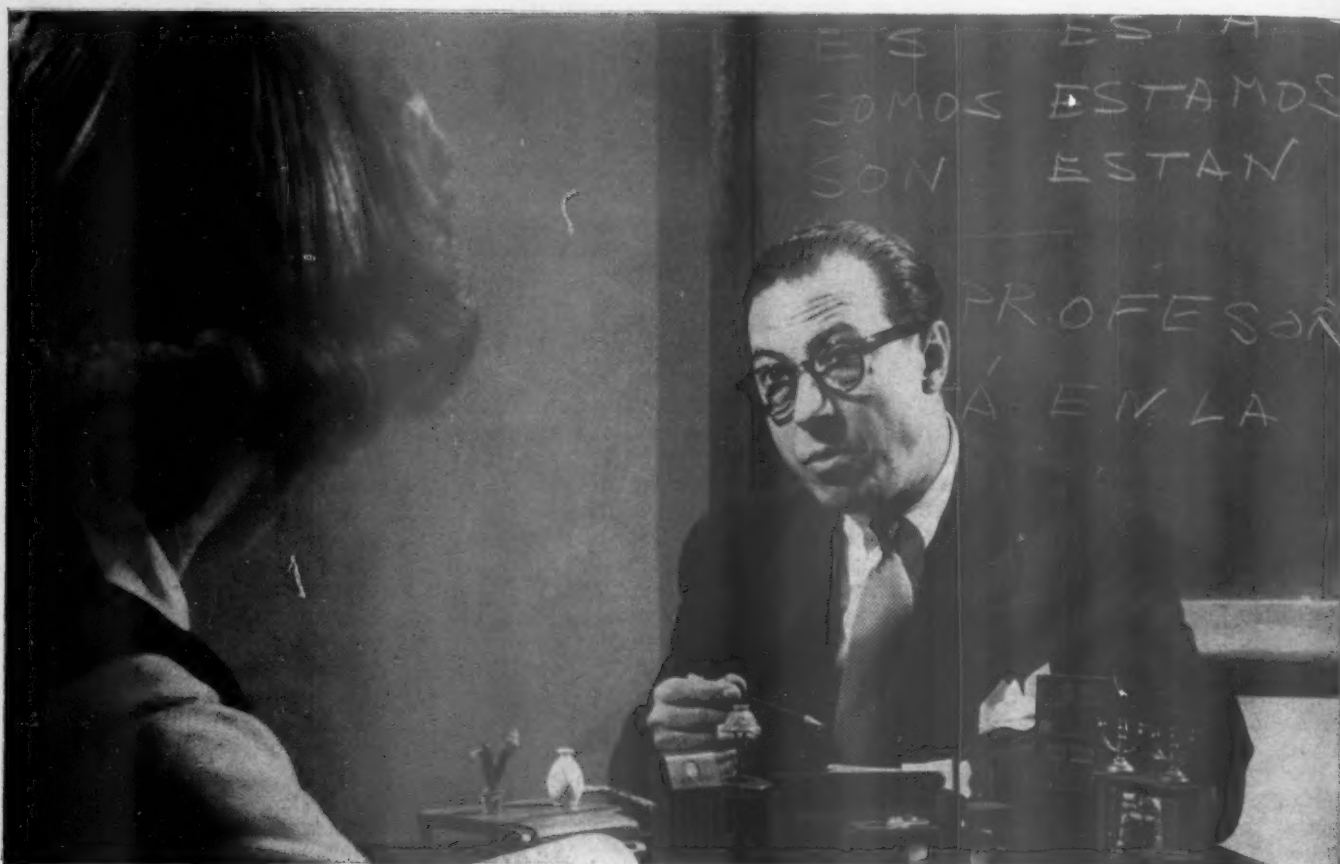
But it's in production that the new control devices will change our lives most quickly and most profoundly. Engineeringwise, any industry geared to mass production is all set for robot operation. Work is already programmed step by step and the human worker is no more than a control mechanism making a series of small judgments for the machines. On the assembly line a worker makes no judgments for a machine which the machine could not be equipped to make for itself.

Like any other process that follows a logical pattern, manufacturing can be programmed for the machine by reducing it to a series

(Continued on page 80)

Où Est the Pen of Votre

By KATHARINE and HENRY F. PRINGLE



Francisco Ibarra makes Spanish easier by using miniature furniture in his class

PHOTOS BY COVELLO FROM BLACK STAR

SOME YEARS before the outbreak of World War II a slightly belligerent gentleman stamped into the Detroit branch of the Berlitz School of Languages. He was a self-made man, a truck manufacturer, the potential client boomed. His education had stopped at the seventh grade, but he had piled up a fortune making trucks.

"I'm going abroad," he said, "and I want to speak French. But don't give me any of your grammar. I wouldn't know a verb from a disease and I don't want to."

He looked sternly at the pretty girl behind the desk.

"All this must be kept a secret," he added.

The man then explained that he was married to a college graduate who had majored in French and had a daughter finishing her university career. He was afraid he

SO you'd like to speak French, German or maybe Arabic. It's easy now if you want to sign up at one of the many language schools

might feel foolish in Europe because he lacked a foreign language.

The Berlitz people take such cases in stride. The Detroit industrialist took lessons faithfully without saying a word to his family. When, in due course, they arrived in Paris he was able to astound his wife and daughter by speaking French more fluently than either of them.

Schools where modern languages are taught rapidly now operate in most large cities. They are supplemented in smaller communities by private teachers, by such other

devices as the phonograph records of the Linguaphone Institute of America and by the self-teaching textbooks of the Berlitz system. The clients—young, middle-aged and even quite elderly—who enroll at the schools are infinite in their variety. So are their reasons for learning a foreign tongue. The film star Paulette Goddard brushed up on her French before doing a movie in France early last year. All of the 125 nimble Rockettes did the same, doubtless in rhythm, pending a foreign tour.

The vice president of a large

Grandpère?



A business man learns French from Nadine Marziano of France

Cleveland firm, who was scheduled to go to Argentina to check on company interests there, spent two months—an hour a day for five days each week—at a language school in his city. When he got to Buenos Aires he was able to solve problems that never before had had the personal touch. The Argentines were so impressed that they asked him to speak before the chamber of commerce which he did—in Spanish.

A few of the reasons for the hasty learning of Italian, German or French border on the idiotic. A man came breathlessly into a St. Louis studio and said it was vital for him to get a working knowledge of German in the briefest time.

"You are making a business trip to Berlin?" he was asked.

"Goodness, no!" he replied. "I've

been given a very valuable imported German police dog and he doesn't understand a word of English."

Then there was the retired Chicago lawyer who was afraid, he said, that in his idleness and senescence he might "do something foolish like falling in love." So he had decided to keep himself out of mischief by learning some French. He learned enough to go on fishing trips in southern France where he chattered volubly, if a little inaccurately, with the native Izaak Waltons.

A majority of the thousands of Americans studying foreign languages each year are, however, in these categories: Army and Navy personnel, State Department employes and other government workers bound for foreign assignments, young business men and



The language sought is the order of the day as the sign indicates

women seeking to broaden their opportunities, the staffs of banks, oil companies, insurance corporations, export and import houses, steamship and air lines. A recent survey disclosed that five times as many Americans, as compared with a decade ago, are mastering at least one other language.

When we went abroad we assumed that people would understand us if only we spoke loudly, slowly and distinctly as though to a deaf person. Nobody will ever know how many millions in export orders were lost in Latin America because our salesmen knew no language except their own and plunged immediately into business, ignoring the more leisurely manners of their customers. The Germans, before the war, were smarter. They could speak Spanish, if with a guttural accent.

The sharply increased interest in foreign languages is not merely due to business. A number of factors are responsible. One of them was the war during which millions of young soldiers went to the ends of the earth.

Today, under the G.I. Bill of Rights, large numbers are learning the languages they did not then know. One veteran took Spanish and settled in Mexico City where he started a candy factory with only \$100 in capital. Today he runs two plants. The elevation of the United States to world leadership, with responsibilities all over the globe, also has stimulated the desire to be able to communicate in a foreign language. But

another important reason is just the fun to be derived.

Americans are going abroad in greater numbers than ever before. They will spend substantial sums for their passages, hotel accommodations and other expenses. At moderate additional cost—from \$75 to \$200—they can learn enough German, Italian, Spanish, Portuguese or French to double their enjoyment when they get abroad. And the process will be relatively painless, too.

How long will it take? That depends on the particular capacity of the student, how hard he is willing to work and the degree of facility he possesses. The heads of the reputable schools hesitate to name a specific time, but most of them suggest that a basic knowledge of French, German, Italian, Portuguese or Spanish—enough for the run-of-the-mill tourist—can be gained in 25 to 50 hours. A bright individual can probably get, in 100 hours, a competence which will enable him to run a business in a foreign country; that is, converse freely, read the newspapers and dictate letters. Such difficult tongues as Russian and Chinese take more time, of course.

Some astonishing records have been made. The smaller the school, perhaps, the greater the speed although this is no rigid rule. Monsieur J. Abat operates a studio in New York which is patronized, in

the main, by diplomats' wives, top-flight business executives and department store buyers. One unusual client was a Norwegian ship captain who already knew English and German and who needed French for advancement in his company. In 35 hours he had covered the necessary grammar and verbs and was able to speak quite well. A similar small institution is run by Dr. Thatcher Clark in New York and another by Madame Boris Mestchersky in Washington.

Unexpected demands are made on the language schools, whether small or large. A few years back an executive bound for South Africa told the New York Berlitz school that it was essential for him to learn Afrikaans in two months. The school heads were momentarily baffled. Afrikanders don't stand around street corners. They finally located a teacher who said that he was willing to try, but who protested that it was out of the question for an American to learn this alien tongue in weeks or months. In a fortnight, though, he had changed his mind.

"Why, Mr. Brown is already telling me how to open and close doors—things like that," he said in amazement.

Another student learned a passable degree of Hebrew in 30 days, but this was by working on the language five hours a day—a prodigious mental feat. Few people

have the stamina to carry such a burden.

The process is easiest in the big cities. The Berlitz School of Languages, the oldest institution where the modern teaching methods are used, has branches in 25 American cities from coast to coast. But Berlitz has some strong competitors.

The first thing the future linguist, seeking to choose a school or language teacher, should do is to examine the pages of the classified telephone book. All the established schools will give references—former students or educational authorities. If there is no school in the community it would be well to consult the nearest college or university or the board of education. In this age, when refugees and displaced persons have settled all over the country, good teachers are not hard to find.

Some of the schools in the larger cities claim that they evolved special systems for teaching languages. Actually, their methods do not differ greatly. The courses are designed to give a speedy knowledge of the spoken language, so conversation in English is usually barred from the start or is limited as much as possible. Grammar is minimized or, frequently, taught so that the student is not aware that he is being fed verbs and tenses. Classes are small, normally not

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Small classes, active participation make learning a language a pleasant task



War left many a community bursting at the seams—but broke

The Stalemate in Local Taxes

By ARTHUR W. HEPNER



AERICAN cities are struggling hard these days to get along. They are going through a revolution, says one tax authority, "as sweeping in magnitude as the industrial revolution."

Daily the demands for new civic services multiply as old reliable tax sources to finance them run dry. And from what remains, Washington and the state capitals are fishing out the choice morsels to feed their own swollen appetites.

Revenue from sales and amusement taxes, for instance, that once paid part of the municipal government bill now helps to defray mounting federal and state operating costs. Faced by such raids on their tax stores, our cities are tax hungry when not altogether tax starved.

To ease their plight, they turn

FACED with growing demands for municipal services and with raids on old reliable revenue sources, our cities are finding the going tough

more and more to papa for hand-outs. But in true parental fashion, the federal and state governments are using these appeals as excuses to meddle in strictly local affairs.

A city that solicits aid for its school program often finds itself told precisely how to spend the money it receives from the state or national treasury. As one local official complained: "We need outside help. But we think we know a lot more about our local problems than someone several hundred miles away. If we ask for money to increase our school program, we

don't want outsiders telling us what kind of program best fits our community needs."

Situations of this kind, generally typical, vary from city to city. In a sense what has been happening to American cities can be seen from the experience over the past ten years of a sprawling Midwestern city—Wichita, Kans.

Ten years ago 127,308 people lived in Wichita and the surrounding area. Like most U.S. cities, Wichita got along mainly on money raised from property taxes. The rate was moderate—\$10.85 per



BOB NATKIN

Specialists in municipal problems miss few chances to talk shop

\$1,000 on assessed valuations—but enough to provide more than half the total amount required to meet running costs.

With the coming of war, Wichita sprouted like winter wheat. On all sides the city burst through the earth. By census time last year there were some 80,000 new residents, a ten-year increase of almost 80 per cent.

This expansion posed a host of new and complex problems. In droves, firms and individuals followed the decentralization trail out of town. Most of them had once provided the largest part of the city's property tax income. Now they took that revenue away, but remained close enough to the city to require its services. As commuters and shoppers, they needed bus lines, parking spaces, streets and highways, schools, and police and fire protection which their outlying townships purchased from Wichita at much less than cost. The city had to keep up all its facilities and throw in even newer ones.

Inside the city limits a new problem emerged. Lower-income groups filled the vacuum created by the exodus to the suburbs. These newcomers proved much less profitable as sources of tax money. They also tended to lean more readily on welfare agencies at the first sign of cutbacks and layoffs. Even discounting the enormous rise in operating costs, the increase

in city services pushed up running expenses while tax reservoirs emptied.

Along with the average American city, Wichita faced two alternatives, to raise the property tax rate or create new types of taxes. Kansas law, by severely limiting the kinds and amounts of taxes cities can introduce, pointed to the municipality's course.

The only remaining solution, said Oran Wadsack, until recently the city auditor, was to raise the property tax rate by 50 per cent to \$15.21 per \$1,000 over the ten-year period. This doubled the take but still fell far short of city needs.

"We're approaching the saturation point in what we can levy against property," he explained. "We shall have to find some new comprehensive revenue that can tap those who benefit from our services but escape the general property tax." He would prefer a local sales and local income tax. But the city lacks the authority to add such helpful catchalls.

Such limitations often place cities on the hook. Increasingly they must turn to Washington and state capitals for grants-in-aid and other relief. But these handouts contain special conditions. A city like Wichita needs money to finance, say, a playground program, but the grant stipulates that it must be used to construct a public market. Coming hat in hand for help in this way, the city loses



its freedom to use the money for things it really needs.

In addition, cities are also participating in shared taxes. And once more they get it in the neck. Take the Kansas sales, gasoline and liquor taxes as an example. The state, Wadsack said, collects many times over what it returns as the municipality's share, leaving city coffers short by just that much. True, something may be said for the greater obligations of the state, and also the nation, but these can be met, students of the problem feel, without penalizing the cities so heavily.

To cope with its expansion, Wichita acted as did most other cities. In ten years, it doubled the police force and increased the size of the fire department by 50 per cent. It improved in 1949 more than ten times the number of streets it had in 1939. It expanded its airport from 160 to 1,850 acres. It engaged a full-time college-trained traffic



RUDY UNRUH

Even doubling the property tax take left one city in a hole



engineer to study and revise traffic and parking systems. It added 190 teachers to care for 7,500 additional pupils. It enlarged industrial arts and vocational training programs in the schools, increased the number of trained psychologists on the teaching staff to handle pupil guidance. It acquired new land for recreational and park functions.

All this and a number of additional services pushed the city budget from a little less than \$3,000,000 in 1939 to more than \$6,000,000 at present. Much of the difference is chargeable to salary rises to meet mounting living costs and higher costs of materials. But a substantial portion results from the extra services demanded by the city's growth and by changing times.

In one respect Wichita is better off than other cities. Some of the subdivisions and communities along its borders have been absorbed into the municipality. Thus

part of the property tax loss has been recouped as the city pushed out its limits. Even so, the city has not been able to foot its own bill. It has to draw increasingly on Topeka, the state capital, and Washington for grants, shared taxes and other gifts to carry its expanded school, welfare, health and general running costs.

In capsule, this is what U.S. cities were up against in the 1940's. It breaks down into four major headaches: greater obligations, thinner resources, raids on tax stores by the state and nation, and sale of their birthright for the money to keep solvent. With cities pretty much confined to property taxes, they are not able to carry as much of their loads as they should. But could they? And if so, how?

Across the Midway from the University of Chicago stands a quiet Gothic cathedral-like building, the Public Administration Clearing House. Inside its dignified walls specialists in government problems steadily study and perfect ways to run cities and states with greater efficiency.

Almost unanimously, the Clearing House experts told me the cities can do a much better job of self-management with more self-sufficiency. This calls for keeping taxation close to where the money is needed. "If the spirit as well as the form of our institutions is to be maintained," they believe, "we must keep the responsibility for

solving governmental problems as close to the people as possible."

The key, the experts agree, is more opportunities for local tax collecting. As recently as 1939, the nation's 397 largest cities together took in as much money as the federal Government — about \$4,700,000,000. The 48 states collected about \$1,750,000,000 less. Ten years later, aggravated by war and post-war pressures, Washington's share had multiplied nearly ten times to more than \$40,000,000,000 while the cities took in less than the states which had barely doubled their income.

Many of the experts agree that cities may not be making the necessary all-out effort to meet their responsibilities themselves. They are missing several good bets. For example, more than \$30,000,000,000 worth of real estate has been escaping municipal taxation. Some of this property, doubtless, has a valid claim to tax exemption, but a large part of it suggests a potential source of revenue still unexplored. Then, too, assessed valuations have not kept pace with rising market values. From 1940 to 1947, assessments rose only 23 per cent of market prices.

Our cities, one expert believes, should make studies to discover their true tax opportunities and analyze their efforts toward fully exploiting them. Some 449 cities of all sizes have instituted some

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SLOW DOWN, OLD

By CHARLES ELLIOTT

THE POOL was walled in like a cistern. The river poured into it over a granite ledge, swirled lazily through the restless waters and boiled down a granite slot on its way to the canyon.

Hugging the wall, I inched cautiously forward along a narrow ledge that was ankle deep in wash. Where the precipice turned at a sharp angle, the ledge I was on came to a blunt end. Six feet beyond, across the blue vortex, a flat rock shelf, approximately the size of a bridge table, jutted off the wall. It was just at the bend of the cliff and unless I reached it, I would be unable to cast into the white water where the torrent poured into the pool.

There was no way to get to the table rock except jump, or swim. Twice I almost worked up enough courage to try the leap, before I gave up and leaned against the wall to indulge in a bit of self-scorn. Twenty years ago, or even ten, I would have sailed across the gap without giving it a second thought and then climbed the jagged, leaping falls to the river bed beyond. Now, in consideration of my aging bones and muscle, to which I wanted to add as much more age as possible, I gave up that corner of the pool that I couldn't reach and concentrated on the dark waters lapping at the granite wall from the other side.

I laid my fly on an eddy and it swirled into the turquoise depths, while I allowed myself a whimsical touch of self-pity. For the first time, the judgment of middle age had overridden the hell-with-it rashness of youth. Somehow I knew that this happened to every man sooner or later, but had never thought of its occurring to me. I was on the sunset side of the hill.

Retrieving my fly out of the tail of the pool, I stripped out line and cast again, laying it against the rock wall, trying

WHEN a man begins thinking of his aging bones he needn't take that as a sign he's washed up —not when it comes really to enjoying life

all the while to stifle the pall of doom because my fishing days were almost over. I had forgotten the fly. Mechanically I was retrieving it with a slow roll of my wrist, absently watching the knot where line and leader met, when a savage strike almost took the bamboo out of my hand.

I struck back, automatically. The barb bit deep and the trout crashed the surface in a shower of bright drops, fell back almost against the gray rock wall. Shuffling along the sliver of ledge to keep my balance, I played him to the tail of the pool and slid my net over his broad head. He was a 16-incher with the

fight nearly gone. I killed him and sat on a rock that split the riffle while I cleaned him for the creel.

The prize addition to my day's catch dissolved some of the sharp disappointment I had felt at not being able to reach the white water under the falls. It also gave me a cud to ruminate while I climbed the hillside around the falls to the next big pool upstream.

The facts were plain. Recognizing them as I did that day helped me to change my whole perspective toward the fields and woods and waters where I relax with a rod or gun in my hands. As I came to the end of the day beside a twilight pool, which was sparked by the last reflection of the sun-down sky, my decision to give up the speed and rashness of youth and slow down to meet the growing physical requirements of age, has meant more to me than any decision I ever made about hunting and fishing.

The self-decree of slowing down sounds like a momentous resolution. I thought of it as punishment or atonement, and never had the slightest idea that it would increase my pleasure in the outdoors. But it has. It's not only taken a lot of the work out of hunting and fishing, but has added to my bag. And it has given me a new philosophy that brings me home refreshed in body and spirit where once I dragged a weary exhausted carcass back to my urban fireside. From every angle, this transmigration into the curtailed activity of old age has been a blessing instead of a curse, as I first expected.

When I trout-fish now, I



From dawn until dusk the ranger and I kept our vigil in the gap

MAN

spend more time on the water where the trout are, instead of in the woods. Years ago I felt cheated unless I walked four or five hours to fish two. Now I stay on the trail for 60 minutes and keep my fly soaked for six delicious hours. The pools I used to slam into and fish quickly in order to splash on upstream to the next productive water, I now sit and study, relaxed, watching for rises, allowing my footsteps which had carried a message of reverberation into the water, to be forgotten by the feeding fish. By traveling slower and sitting longer, I find immeasurable pleasure in the stream, and in the flowers and birds and animals along the shore. And I catch more and better fish.

Last summer I made a trip to Eagle Creek that flows into western North Carolina's Fontana Lake. Years ago, before the lake was built, a mountain road wound into Eagle Creek. The rising, impounded waters covered the road, shutting off any simple access to the fruitful stream. The only way to reach the creek now is by taking a boat across the lake from the dock at Fontana Village, and walking upstream along a wide Park Service trail.

Hungry Hadaway and I left the dock at dawn. Hungry is lean and lanky and as long-legged as a water spider. When he walks, he covers ground like a sandhill crane. And his idea about trout fishing was about as original as a three cent postage stamp.

"Most people fish on that part of the stream near the lake," he said. "The further we get away from those waters, the better the fishing will be."

"Sure," I said. "A fellow by the name of Walton pointed that out some time ago. But you go on upstairs to fish and I'll take my chances in sprinkling a few flies around the waters on this end."

I put my rod together at the first pool and watched him leg out of sight toward the distant crest of the mountain. He claims he walked



WARREN BAUMGARTNER

For the first time in my life, the judgment of middle age had overridden the hell-with-it rashness of youth

three hours before he spat on his first fly to bring him luck. He wasn't gone but eight hours altogether. That gave him 120 minutes in the finest fishing water that ever flowed around his knees. He brought back his limit of mixed brook and rainbows that averaged ten inches.

In the meantime I had lazed along the pools and overhanging banks for a mile or so and had picked up three rainbows, the smallest of which was a fraction

less than 17 inches. Any two of my fish would outweigh his whole string. The trip had sapped his youthful vigor and not even his pride in a fine catch of trout could overcome his weariness. In contrast, I was relaxed and invigorated by the placid, unhurried hours and ready to swing Lucile around the square dance floor.

My new policy of slowing down has been equally productive in other outdoor activities. Ranger Arthur Woody perhaps laid the

background for the decision I made that day on the river, when we hunted deer together years ago. Out of his own pocket, the ranger had restocked the forest lands along Rock Creek, which were later designated as the first game management area in the National Forests of the United States. Fifteen years later I was present with him when the area was opened to limited hunting, to remove some of the surplus deer.

"I'm too old t' beat th' bushes with you," he said, with a twinkle in his eye, "but I know of a little gap not far above th' road where y' can sit with me an' get a shot."

I trailed behind him for a mile up the gentle slope that climbed away from the road toward the tall skyline. The low gap was a natural crossing where the deer moved from ridge to ridge, as well as from one deep valley to the other. We found a seat downwind from the game trail and sat down on a cushion of leaves.

"A few years ago," the ranger confided, "I reckon I'd have run m' shoe tongues out around this mount'in, chasing after these critters. But I'm gettin' too old now, an' I let 'm come t' me."

Spread out below us and around us, 100 hunters were moving in the 40,000 acres of frigid wilderness. Many of them had never hunted deer before and they went at it like a rabbit hunt, wading through the thickets, kicking at the brushy tops of wind-thrown trees, scuff-

ling along the leafy slopes that crackled like corn flakes under clumsy brogans. Most paid no attention whatsoever to the wind.

From dawn until the first close shades of dusk, the ranger and I kept our vigil in the little gap. All day long the deer flowed back and forth across the mountain. There were innumerable does. We counted 16 bucks. Some carried nice racks but I did not even put a hand toward my gun that day. I knew if I killed, the fun of hunting would be over, and I wouldn't have traded those 11 hours in the gap with Arthur Woody for all the bucks in the Blue Ridge. It was my first lesson in the compensations of old age.

When he got too old to travel his trails, Woody spent some of the most enjoyable days of his life relaxed on a sunny hillside, watching his bucks and does, and the other game of his forest parade by. Other summer afternoons he parked at the rim of his favorite trout pool, snagging the big ones while his younger contemporaries splashed up and down the creek, beating the waters to a froth while they breathlessly hooked the legal limit of seven- and eight-inchers.

Probably the finest lesson I ever received in the redemption of the years was the fall I made a trip to the Wyoming Rockies with Joe Bradley. Joe had lived a full lifetime for the sole purpose of killing a mountain sheep.

He'd shot some upland game and

busted a few caps at migratory waterfowl, but he considered the shotgun in a class with a handful of rocks. But his jaunts into the woods and fields were few and far between. Some pioneer strain in his background called for timberline and thin air and a bighorn trophy to go over the stone fireplace in his den. Toward that goal, he stuck to his business almost night and day, trying to put aside enough money to fulfill the greatest ambition of his life.

For six months before the sheep season opened in September, Joe kept himself in a constant state of the jitters, rereading everything he had stacked away on the mountain sheep, marking the days off the calendar one by one. He almost wore out his .30-06 rifle, polishing and repolishing the stock, and working the bolt to become as proficient at loading and pumping lead as a Texas Ranger with the old Colt .45.

When we arrived in Wyoming, the first snow storm of the season had already swept the high divide and gone, leaving the expanse of earth above timberline wrapped in air so crisp and cold and thin that a sheep was clearly defined, even though he was so far away that he looked no larger than the etching on the head of a pin.

We rode our horses up a mountain creek to the end of the trail and hobbled them in a high, lush meadow, where the earth stood on

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Seventy yards away lay a big ram. He'd doubled back over the mountain



C. E. McCarty is general manager of one of the country's fastest interchange points, Potomac Yard, Alexandria, Va.



PHOTOS BY GEORGE LOHR

Can the Rails Do It Again?

By WILLIAM J. SLOCUM

THE TIME has come once again when America must flex its muscles and count its blessings; blessings like steel, oil, automobiles. Then there is food aplenty, a stable economy, an inventive and industrious population. And magnificent aircraft, mighty battlewagons, modern weapons and the manpower to operate them all with skill. All these riches inspire confidence.

But there is still another blessing. It is usually dirty, it has no glamour and yet without its help the others scarcely could exist. It is perhaps the mightiest blessing of them all. It is the mean and lowly freight car. Among America's greatest assets in war and peace are the 2,000,000 freight cars that bounce and jolt their way around 24 hours a day, 365 days a year.

MORE than 90 per cent of the men and materiel that left America in the last war moved by train.

Here is today's story

Are the American railroads—some 500 of them—ready to fight another war? The answer is “no” and “yes.” “No” because they are not as ready as they would like to be. “Yes” because they are ready enough, however, to tackle the job, confident they will do better even than they did in World War II. And more than 90 per cent of the men and materiel that departed this

arsenal of democracy was moved by the railroads.

Oddly, the railroads consider themselves in a stronger position to cope with a full wartime economy than with the frenetic quasi-peace of last summer. The outbreak in Korea brought on scare buying, defense buying, and generally increased buying in all fields, and it resulted in car shortages. This rush of business caught the railroads in an unhappy position. The year 1949 had not been too happy so the railroads had begun an extensive campaign of scrapping old freight cars. They scrapped them considerably faster than they built new ones. They had scrapped 45,000 early in the year, but with the first war clouds over Korea they ordered 100,000 new cars. The railroads have no

need for so much new rolling stock in a peacetime economy.

Railroad men are not sanguine about their future. They are beset by increasing passenger competition in the automobile and airplane. The trucking industry is cutting steadily into their freight revenues which generally offset the passenger losses. The return on investment in railroads is about 3½ per cent which does not result in long lines of investors begging to sink their money in the carriers. Nevertheless, from 1945 to 1950 the railroads spent \$4,375,000,000 in improvements to plant and equipment. The largest chunk, almost \$2,000,000,000, went into new cars and \$1,295,000,000 purchased new locomotives, most of them diesels.

Railroad management is at its best in the business of moving freight. Freight can be designated as a box of lead pencils, a 15-ton crane, a tank of oil or a tank of acid. It can also be baseball bats or a car of TNT which passes through dense population areas with safety and dispatch. Without disparagement, it can be said that passenger operations are comparatively easy, although hundreds of thousands work at both passenger and freight movement indiscriminately. Oddly, the passenger trains get all the attention, all the publicity and all

the right-of-way. All the freight does is make the money.

There is a fascinating contradiction in the entire business of moving freight. In the first place, the railroads are in cutthroat competition with each other, to say nothing of other forms of transportation. Despite this competition and the laws of nature, as well as the law of Sherman, which encourage the rivalry, the railroads would go bankrupt if they did not work together. They have long agreements covering the many cooperative details of their business. These agreements are filled with "whereas this staggering cost will be shared" and "whereas freight cars will be returned to their owner promptly" and "in case of failure to do so certain penalties will be levied." But the cold fact is that the penalties are basically unenforceable and the mighty rivals work on what amounts to a gentlemen's agreement. It is not the only gentlemen's agreement in big business but it is certainly the only legal gentlemen's agreement covering billions of dollars of competitive business.

The business of getting a freight car back to its owner or "home," as the railroaders say, is essential and pretty much a gentlemen's agreement in action. If the New York,

New Haven and Hartford moves a carload of clocks from Waterbury, Conn., to St. Louis, Mo., the car is delivered to the Pennsylvania Railroad tracks at Hell Gate and continues on to St. Louis on Penn trackage. It is the duty of the Pennsylvania to get that New Haven car back "home."

If the Pennsylvania cannot get a load for the New Haven car it must start it homeward empty. It can't let it go westward, but it must move it eastward. And here is the "Believe-it-or-Not" phase of the operation: If the Pennsylvania has a carload of beer in St. Louis destined for Waterbury, Conn., it must load that beer on the New Haven car although it (Penn) may have rolling stock of its own available and empty.

If the New Haven car suffers damage while on the Penn tracks, the Penn is required to make all necessary repairs at no cost to the owning road. Penn pays New Haven a per diem of \$1.75 while the New Haven car sits or moves on its trackage.

The Penn-New Haven transaction described is possible but rather simplified. A freight car may move from coast to coast and back over dozens of lines. *Railway Age* tells of Union Pacific boxcar No. 193346 which was chosen as a guinea pig



The yardmaster has his hands full going over manifests and shuffling some 3,000 cars daily



Any repairs ordered by the Yard's inspectors are made there, regardless of a car's ownership

because it was so normal—neither old nor young, nor the best nor the worst. In four and a half years No. 193346 passed through the hands of 83 railroads, some as many as ten times for a total of 221 changes. It changed roads once every seven and a half days; it was in every state at least once and several Canadian provinces; it was in every major city in America and its loads ranged from canned peas to oil drums to ammunition.

If you have passed through Trenton, N. J., and seen a Santa Fe boxcar sitting in the yards, you may have wondered if Santa Fe knew where the car was. The chances are that Santa Fe doesn't know it is sitting in Trenton but it does know it was in Washington ten days previously and if the need arose Santa Fe could locate its boxcar within a few hours. This miracle in location, which is somewhat superior to finding a needle in a haystack, is the result of an involved system of notification. This system involves punch cards, teletypes and mail reports and is elaborate beyond readable description. But it works because the railroads have combined to make it work through the Association of American Railroads.

It is the A.A.R.'s Car Service Division which works closely with

shippers so that when the wheat comes in Kansas there will be sufficient empties on hand to carry it to the mills. This, too, is a miracle in cooperation because no matter how much it hurts, a railroad must answer all calls from Car Service. Car Service also places embargoes.

This expensive exercise in good sportsmanship among competing railroads is required by law but it was in successful operation 17 years before the solons passed legislation to assure the already accomplished. In times of great car shortage, a few smaller railroads now and then keep the equipment of other roads longer than they should. But it is rare and it is the best possible proof that the operations outlined are what I called them—exercises in honesty. The occasional malefactor simply proves that there are no laws by Congress or agreements among railroads that cannot easily be broken if a railroad wants to cheat. It simply happens that 99 per cent of the railroads do not want to cheat. Even when they are cheating competition.

Scattered strategically through the country are interchange yards, all expensive examples of how the railroads have combined to give America a transportation network that will get fresh Louisiana straw-

berries on the menu of the Stork Club or mighty cannons on the docks at Newport News, Va.

The Potomac Yard in Alexandria, Va., is one of the nation's largest interchange points employing some 1,050 men whose wages run from \$9.43 a day for a messenger boy to \$15.42 for the chief clerk. It is one of the country's fastest. The property is valued at \$9,000,000; it cost \$3,580,462.27 to operate it in 1949; it has never taken in a dime of revenue, and, most ironically, it sits side-by-side with Washington National Airport, a tax-free enterprise which cost commercial airlines a little more than \$400,000 in fiscal 1949. The Potomac Yard works in the interests of all railroads but is supported by five: the Baltimore & Ohio, the Pennsylvania, the Chesapeake & Ohio, the Southern, and the Richmond, Fredericksburg and Potomac. The Washington and Old Dominion line is a relatively minute participant.

When a Southern freight train pulls out of New Orleans with 100 cars, it picks up boxcars and drops them off en route to Washington. But when it slides into Potomac Yard it is still about 100 cars long and it has cargo for New York, Boston, Harrisburg, Pa., Wood-

(Continued on page 76)



A car which has been humped is slowed down by a device that forces its wheels against the rails



After cars have been cut loose they drift down to whichever tracks the humpmaster chooses

Tough to Beat

By NEILL C. WILSON



Joe said . . . "You're her old man and you've got gray hair and forty million

W. B. SKAGGS knew oil. He'd come up from the days when kerosene was what you were after, and gasoline was what you poured down creeks. He thought he knew his daughter, too.

So, when Alexa led Joseph Gatewood to her sire and stated that she and the young man were going to wed, you could have knocked W. B. down with an unsigned lease form.

Joe Gatewood also wobbled at the haymaker. But delightedly. He hadn't proposed to Alexa yet, so this shoved him ahead of his time-

table. His tie squeezed his neck.

Old W. B.'s Roman-senator features knotted up. Joe fairly reeked of hyacinths, gardenias, musk myrrh, carnations and several other sweet things.

Snapped Joe, his jaw beginning to jut, "Go ahead and sniff. I'm free."

"Joe, darling." Alexa plucked his sleeve.

"He needn't make that face," requested Joe.

"Bear with it, dear," suggested Alexa.

William Blessington Skaggs—

the public thought the initials stood for Wildcat Bill—continued to frog-eye the ambrosial young man. There were about 190 rock-hard pounds to Joe. Favorable formation, so far. Shined boots, creased pants. Alexa could be understood as inspiring those. But—that fragrance. "Kind of radioactive, ain't he?" the parent gasped to Alexa.

Joe took over. "It's what comes of calling on dames and having to eat Sunday dinner with their old man." Joe's voice began to climb, as when one addresses crown block from derrick floor.

"Joe, love." Alexa's steadying hand slipped into his. To her father, "Isn't he gorgeous? I mean when he's stripped."

"To the waist," defined Joe.

"He's like a brown coco mat," enthused Alexa.

"I could wipe my feet on him with pleasure," stated W. B. "The dinner invitation stands, I guess, seeing it's mealtime and this is Texas, but my appetite is going to be terrible. Where has he been rolling? In a sachet bag?"

Alexa held Joe's hand restrainingly while he counted ten.

Joe said to her father, "When I'm good and ready, sir, I'll tell you why I smell so expensive and girlish. Lexy says I'm to be polite, so I'm being polite. You're her old man and you've got gray hair and forty million bucks, but if you make that face any more I'll ram five knuckles down your teeth."

"He'll eat here lots, dad," crooned Alexa, "when he's your son-in-law."

Wildcat Bill complained, "Alexa, you do spring things on me so. Maybe I'll like him fine after he's stood in the wind a while. It's just that I need time to size him up."

"My department, dad."

"How long did you spend on it?"

"Two minutes. I had to wait for him to turn around. Besides, he was goosed up with yellow Permian clay."

Understanding twanged in Bill's massive head. He barked at Joe, "You work for me somewhere?"

"For Dave Holter, your contract driller. Out at Cottonapron."

Bill whirled on his long-legged daughter in the checked shirt and horse-sprung jeans. "Then the first and last time you saw him was last Wednesday!"

"First, but not last, dad. He's been here every evening since."

Supplied Joe, "It's only 160 miles each way."

Wildcat Bill found himself growing really mad at all this happen-



bucks, but if you make that face any more I'll . . ."

ing right under his nose, which is to say while he was in Houston the last four evenings playing poker. As for noses, his own began to wrinkle again.

Flamed Joe, "I don't like your bo-kay either. It must be your low-grade dollar cigars. I don't like any part of you except Lexy, which you might say is detachable. And I sure don't like this tight tie. So nuts to your dinner. See you tomorrow, boss, at Cottonapron. Maybe I'll have a chance to drop a wrench on you."

He turned and strode for his car. As Alexa's hand was locked in his, she kind of hiked along, too. They parted, and he rocketed away.

The Skaggs ranch house porch was 180 feet long, U-shaped, around a blue-tiled swimming pool. Alexa picked her way back to the porch, moving as if she were still on a rotary table going full speed. She plopped down onto one of the six swinging couches. Her parent was in a hard, round-backed armchair, biting off an end of one of his cigars. She pinned him with an eye. "Dad!"

"Will you please explain how, with all the he-men in he-man Texas to choose from, you dragged that out of the slush pond?"

"Joe wasn't in the pond. He was halfway up a derrick."

"Some telescope you pack."

"No telescope. Insight. How far down in the ground can you spot oil, Wildcat Bill Skaggs?"

"Out at Cottonapron, I've bet a hundred thousand bucks that I saw oil down at 11,500 feet."

"Well, then!" Alexa yawned and stretched adorably.

"What do you mean, 'Well, then'? Young lady, when I hunt for oil I go at it with maps, reports, magnetometers, gravimeters, seismographs and electrical resistivity."

"Electrical resistivity," murmured Alexa. "That's Joe."

"I take land leases that I can drop. I win or move on."

Alexa poked into a shirt pocket and drew out a tobacco sack. Viewing her father thoughtfully under shielding lashes, she rolled a tight one and dabbed it into her lips.

W. B. continued, "Marriage is a long lease. Mighty long. I've always figured you might some day look with favor on an oil man. But I mean oil of petroleum, not the

stuff they squirted on the Queen of Sheba. This Joe—if he's how an oil man smells, I'm going to join the Pawnee Indians."

Alexa had a number of jeweled lighters. Also suits with skirts. She seldom bothered with any. She glided a match on taut denim and blew a smoke ring.

Wildcat Bill drove out to Cottonapron next morning. The day was bright, except for that Joe-cloud on his horizon. Old Man Cottonapron was sitting with his sock feet on the rail of his front porch. The porch was six feet by three hitched onto a house that was 12 feet by ten. The drill rig which he hoped was going to buy him a couple of Federal Reserve banks was noisily making hole in his mule pasture.

Hank heaved himself up, squirmed into his shoes and hobbled down the path to Bill's car. When those royalties started rolling in, it would take more than Bill and his millions to hoist Hank out of a rocker, but that day wasn't here yet. "Everything going all right, Bill?"



She walked toward the pool. She gave a tug and a heave-ho to her wet shirt

"Can't tell for sure yet, Hank. You've got an anticline on this ranch that wildcatters dream about. But only the drill bit can tell us what's inside of it."

"That piece in the papers about you leasing my place has fotched me a heap of letters. There's a blonde job keeps writing from Laredo. She's sent me some photygraphs."

"Steady, Hank. Better ask for a sample of her cooking."

"I done that. She's shipping it. Chockerlate cake."

The drill rig jarred the earth with its clank and whirl. Halfway toward it, W.B. stopped his car again. He sat for minutes, thinking. Alexa was usually pretty shrewd. Her father's own daughter, folks said. Looked at from any angle she was a mighty trim assembly, well topped with brains. But what did she know of Joe Gatewood? Memory of that human floral distillation sat like a lump on Bill's innards.

He came to a couple of decisions, and drove on.

Dave Holter, the contract driller, paid no attention to his client's arrival. Dave had worked for Bill Skaggs from Smackover to Yazoo, from Alberta to Yemen. He spoke little, enthused seldom, showed surprise never.

Joe Gatewood was under the derrick, working at a dangling string of tools. The wind had cleared away his powder room aura. Old W. B. picked up some drilling mud. The stuff had made a round trip through the boring, bringing up cuttings. He dribbled it through his fingers.

Dave slouched over to him.

W. B. said, "Looks to me like we're through the Permian."

Dave's job was to drill. He offered no comment.

"Have you taken a core?"

Dave jerked his head toward a long slim tube with sharp teeth that Joe was rassing aside.

W. B. went over to it. He ignored Joe, who ignored him. He caught up a gob of the fresh coring. He balled it, kneaded it, sniffed it.

Dave, who'd followed, watched closely.

W. B. dropped the material finally and wiped his hands. "Well, that's wildcatting."

Dave came as close to a jerk of surprise as he ever allowed himself.

"Seal this sand off and keep trying for another 2,000 feet. If you don't find anything better, pull your tools, Dave."

Dave's slowly chomping jaw went stock still. Eventually it moved again.

"I'm going to ship you and your outfit across the water once more. We'll take a look at those deserts south of Faqih."

(Continued on page 64)

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R. I. NESMITH

Rockefeller Center: Host to World

By JOHN HERLING

RECENTLY a little theater group in Lincoln, Nebr., needed a copy of the *London Times* as a stage property for Noel Coward's "Blithe Spirit." So it wrote to Rockefeller Center in New York—and a copy was soon on its way.

"Rockefeller Center wouldn't think of neglecting an appeal like that," says Victor Borella, vice president in charge of operations, under whose guidance the Center has come to regard itself as host and helpmeet to its 32,000 office inhabitants, and its 125,000 daily visitors.

If, in fulfilling this obligation, the Center, which houses consulates of 20 foreign governments and some of the world's most dignified financial institutions, also has frequently the atmosphere of a church sociable, a college football week end or a county seat carnival, the effect is purely intentional.

The cosmopolite from Paris or the tourist from Mule Shoe both can be equally at home in the Center and leave it feeling that New York is not such a heartless city after all. Or so Borella hopes:

"All those people—a cross section of the world today—are a big and friendly challenge to us. We are a private enterprise, but we're also an institution for public service. We don't ever forget that."

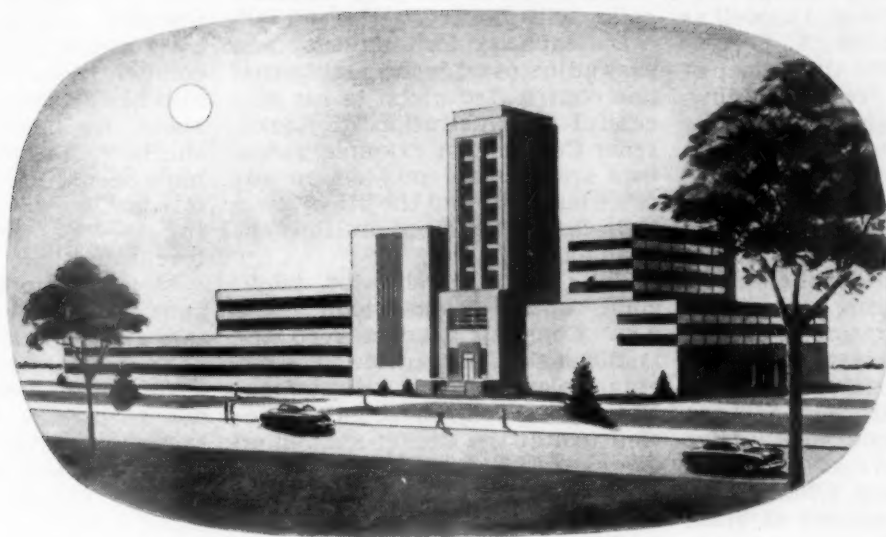
News of this attitude spreads to faraway places.

A young fellow, fretting away in a displaced persons camp in Italy, asked the "Lost Persons Department" in Rockefeller Center to help him find his relatives—if any were still living—in the United States.

The Center has no "Lost Persons Department." It formed one which, after a search of several weeks, reunited the broken family, hosted and toasted them, dined them in the French Restaurant—one of the Center's 26—and sent them away wide-eyed and enthusiastic.

Rockefeller Center, bounded on the west by the Avenue of the Americas, on the east by Fifth Avenue, the south by 48th Street and the north by 52nd Street, is the biggest private office area in the world (the federal Government's Pentagon in Washington is larger). Within the 12½-acre community are the world's most spacious theater—Radio City Music Hall—four acres of roof gardens and three groups of office buildings—Radio City, Business Section and International Development.

Five buildings comprise Radio



Which twin is in the South?

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President



SOUTHERN RAILWAY SYSTEM

The Southern Serves the South

City: RCA Building and RCA Building West, RKO Building, Music Hall and Center Theater. The Standard Oil Company of New Jersey is sole occupant of the ESSO Building—a 33-story structure and the only one of postwar vintage. *Time* and *Life*, Eastern Air Lines, U. S. Rubber and Associated Press buildings complete the business section.

An international group includes the British Empire Building, La Maison Française, Palazzo d'Italia and two others.

Just the operation of these separated buildings as an entity geared to the business needs of 1,100 tenant concerns is no small feat. Add the extracurricular activities—Boy Scout rallies, city greeter Grover Whalen, police band, seasonal flowers, Easter music or Christmas carols, and it's apparent why Borella's job is a constant exercise in the art of social as well as managerial navigation.

His office is on the third floor of the Associated Press Building. When he hasn't some decision to make, there is a complaint to handle. Failing that, there are unusual incidents, suggestions for improved service, and the ever-present chore of coordinating his 1,500 employees in one of the world's biggest housekeeping jobs. The Center has 215 elevators, the city's largest parking garage, ten miles of underground corridors and passages. It receives 700 delivery trucks a day, disposes of 800 bags of waste paper, and each year consumes 18 tons of soap, 6,000 gallons of wax and 1,300 gallons of brass polish. Its 16,500 windows are washed twice a month by a crew of 24. Because window cleaning follows an inflexible procedure, no serious accident has occurred in the Center's 18-year history.

"All equipment is inspected each morning before the cleaners leave their dressing room," says Borella. "We have a supervisor make sure that each cleaner goes over every inch of his webbed safety belt. At the first sign of wear, we replace the belt. Supervisors check the weather and 'ground' the entire crew if the wind is too strong or if sills are icy."

Borella began work in his early teens, helping his father run the family fruit business at Newport, Vt. Before being graduated from Dartmouth College, where he was an honor student and a classmate of Nelson Rockefeller,

he worked as a reporter on the *Montpelier Argus* and on the *Barre, Vt., Times*. He also held a series of summer hotel jobs, including the management of one.

In the early '30's he moved into labor relations work, taking a job with the Terminal Transportation Company, then a General Motors subsidiary, employing 5,000 taxicab drivers in New York. From taxicabs, Borella went to the labor and public relations department of General Motors. In the spring of 1939, Nelson Rockefeller, looking for a man to handle labor problems, made him the Center's labor relations director. Two years later, now 35, he was elected to the Center's board of directors.

In 1942, Rockefeller, then coordinator of Inter-American Affairs, persuaded Borella to come to Washington to help develop popular interest in the good-neighbor policy with Latin America.

His capacity for simplicity and easy adjustment is the quality that has contributed much to his successful administration of Rockefeller Center. For example, elevators are a traffic problem in any office building, and the 215 of them in 15 Center buildings multiply the headache.

The peaks in elevator traffic come around 9 a.m., noon and 5 p.m. Constant studies keep the traffic as fluid as possible. The average elevator wait throughout New York is 30 to 45 seconds. A recent test at the Center showed an average of 25.

Borella says that statistics like that, although comforting, don't untie any of their traffic knots.

Take the business of parking. The Center's garage, according to Borella, is still the most up-to-date and largest of its kind in the city although erected in 1940. It's built on the ramp principle, with six parking floors all laid out alike.

Such universal sameness apparently was too much even for the experienced parking employees, so they occasionally would park a car in the right berth but the wrong floor. When the parker returned for the car at night, trying to find even just two or three misplaced cars upset the entire delivery system.

Borella suggested that the columns be painted a different color for each floor with tickets to match. This idea saves many man-hours and reduces complaints of impatient car owners.

New York's water shortage last year jeopardized the outdoor skating rink—one of the Center's chief attractions. Although the rink uses comparatively little water, Borella says he anticipated public criticism about its operation during the shortage. To close the rink would have been a blow to tenants, visitors and young people, and meant the loss of the \$80,000 annual revenue.

At a staff meeting an engineer pointed out that the water condensate from the steam which heats the building merely drained off and went into the sewer. "Why not," he asked, "reroute this flow of waste water to the skating rink?"

The idea was accepted, the condensate tapped, and the water piped into flash tanks and later used to spray the rink. Signs explaining the move were erected and the press informed of the action.

Center "guides"—ambassadors to the public—are watched with great care. As part of the daily service to visitors, the Center sends out guided tours. During holiday and vacation seasons, these often move at 20-minute intervals. Well informed young women chaperon groups which are literally a cross section of the country. Foreign visitors may have guides who speak Spanish, French or Italian. The tenure of guides is limited to two years, to assure enthusiasm for the work. Many guides are actresses between engagements, or student musicians, or other types of talented folk.

Men guides formerly were employed. Thomas Merton,



"Better not include me in the company's future plans, sir. My draft number comes up in five years"

author of "Seven Storey Mountain," was one. Gregory Peck, the movie actor, was another. "But it became pretty clear," says Borella, "that while the girl guides paid impartial attention to business, young men, more often than not, were apt to favor the pretty faces and neglect the other customers."

Guides take you to the subbasement 68 feet below the surface to show you the innards of the Center. There are four levels below the street. On these are the generators, pumps, dynamos, control panels. A maze of pipe and conduit systems transports the light, heat, power, refrigeration, air conditioning, water and steam.

Above is the Plaza. There are flown the flags of the United Nations. A dozen times a year the plantings in the plaza gardens are changed. Seven gardeners bring the flowers to bloom on the right day. By putting flowers in refrigeration or by forcing their growth, the Center makes even nature operate on schedule.

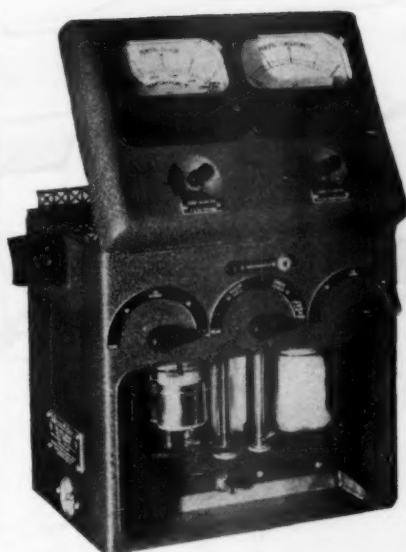
For the kids, Rockefeller Center is one great playhouse. Up an escalator, back through a revolving door—and they're off in all directions from their parents who may be looking around, having their own kind of fun. The buildings make rather spacious and comfortable playgrounds—informal ones, indeed—warm in winter, cool in summer.

This could be a headache for a vice president in charge of operations were it not for an ingenious signaling device, known as the Control Board, and located not far from Borella's office. A massive panel with a forest of lights and indicators is a never-sleeping nerve center. Has somebody strayed or stolen into the emergency door of the 75-floor stairwell, one of the longest perpendicular labyrinths in the world? The board soon is notified. It spells out the progress of the Center's patrolmen as they punch their time and position clocks. Control operators can reach any of the 215 elevators by phone or talk to patrolmen and watchmen equipped with portable telephones.

When children are lost, alert watchmen immediately report to the Control Board. Frantic parents also are likewise spotted and the Control Board again notified. In a short time happy reunions take place.

Naturally, in a place the size of the Center, many lost items are found: wallets, scarves, theater tickets, cameras, vanity cases,

(Continued on page 85)



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Bad temper may be a laugh to your friends—a peril to your caddy

Caddies Are Human, Too

By PAUL D. GREEN

AT THE South Bay Golf Club near Babylon, L. I., one day a friend of mine found his ball on the edge of a sand trap approaching the fifth hole. Almost automatically, he asked his caddy for his sand iron.

"This is the best club for this shot, don't you think, caddy?" he said.

"You'd be right in most cases, sir," the boy replied. "But why don't you try your putter? You might get a birdie."

"The putter?" my friend said with surprise. "I never tried using a putter from a trap."

"You don't have the right setup often, sir, but you've got it here. Look. You're just in and there's no bump between the trap and the green. The ball is in a good lie and you're only about 15 feet away. If you try to pitch, you may overshoot and the ball roll down the slope on the other side of the green. You'd need at least two more strokes to sink it, if not more."

My friend took his putter, lined up the shot and gave the pellet a firm smack. The ball rolled out of the trap, across the intervening stretch of fairway and onto the green for about eight feet. He sank the putt for a birdie.

"I never realized," he told me later, "how a caddy can help you get a good score. I'd never have used a putter out of a trap if he hadn't suggested it."

This is a good example of how caddies can help even a seasoned golfer. Many golfers don't realize it, but their caddy can be more than a bag-toter. He is often a good player himself. And he generally knows more about the course than the player does because he goes around it more often.

Caddies for the most part are young boys out to earn a few dollars. They may be your neighbor's son, if not your own; or the fellow who delivers the newspapers; or your son's school chum. In short, they are human beings, and should be treated with consideration. In exchange, they can give you a lot of valuable advice on the choice of clubs, terrain, roll of a green. It might even make the difference between winning a tournament and being an also-ran. And, kindness to the caddy can pay off in a pleasanter game, better service and fewer lost balls.

This opinion was expressed to me by amiable John McGlone, pleasant-faced caddymaster of

the South Bay Club. He started caddying in 1937, when conditions were quite different, and became caddymaster after leaving the service in 1945.

"By the time you've gone three holes," McGlone said, "the caddy knows all about your playing habits. No two golfers play exactly alike. A caddy sizes up a golfer quickly and acts accordingly."

"A good caddy can 'club' a golfer for the rest of the loop after three holes," he went on. "A player who is in doubt of a shot loses a good bet if he doesn't ask the caddy's advice. I don't mean he should let the caddy play his game for him—that takes the fun out of it. But there are many cases where the caddy's suggestion may save him a stroke or two."

"For example, he knows the direction and force of the wind each day. He knows whether the ground is fast or slow. He knows peculiarities about traps and the roll of greens and fairways. Sometimes he may make a wrong choice—but he'll be right more often than an inexperienced player."

"Just what do you consider a good caddy?" I asked McGlone.

"He's a boy who stays at a re-

spectful distance when his player is addressing the ball. He should be off the green entirely when a man's putting, unless he has the flag. He shouldn't rattle his clubs, whistle, or move about. All of these things tend to rattle a player. As soon as the ball is hit and he spots where it fell, he should stand by until the players approach. Then he should hold the bag in front of him so the player can choose his club. If the player asks him which club to use, that's the only time he should make a suggestion."

"He's not expected to be an expert," McGlone added, "though many of them become crackerjacks. You can hardly think of a well known golfer from Gene Sarazen down to Sammy Snead and Ben Hogan who weren't caddies once."

Alex Ferguson, the South Bay pro, goes along with this.

"If there's one thing that annoys a caddy," Ferguson told me, "it's being stuck with a duffer. He slows up the game, averages ten or 12 strokes to a hole, chases the poor caddy all over the lot looking for his balls. A caddy expects to finish an 18-hole round in three hours. When these wild ones come along, it takes four, which cuts down his earnings per hour."

"A newcomer should learn something about the game before going out in a foursome. Even after he has been taught the fundamentals by a pro, he should let the caddy shag a few balls so he can get the feel of his clubs before starting to play," Ferguson continued. "One day he can try the woods and long irons; the next the short irons and another the putter."

"If he learns to concentrate on each shot, he won't make enemies of his friends and caddy by lousing up a game. The first few times he plays, he should get a friend who knows he is green to go with him, and ask the caddy's indulgence from the beginning. Some tyros just can't wait to show off their new clubs and join a foursome long before they're ready. They make it a miserable day for everybody."

"But how about specific ways a caddy can help your game?" I asked.

"Oh, there're lots of ways," he replied. "Take handling the flag during a putt. That's one of the most important jobs a caddy has to do. If it's a close putt—say four to six feet, the caddy should remove the flag just before the player addresses the ball. If it's a long putt, of, say, 20 feet or more, and the player can't see the hole, the caddy

(Continued on page 58)



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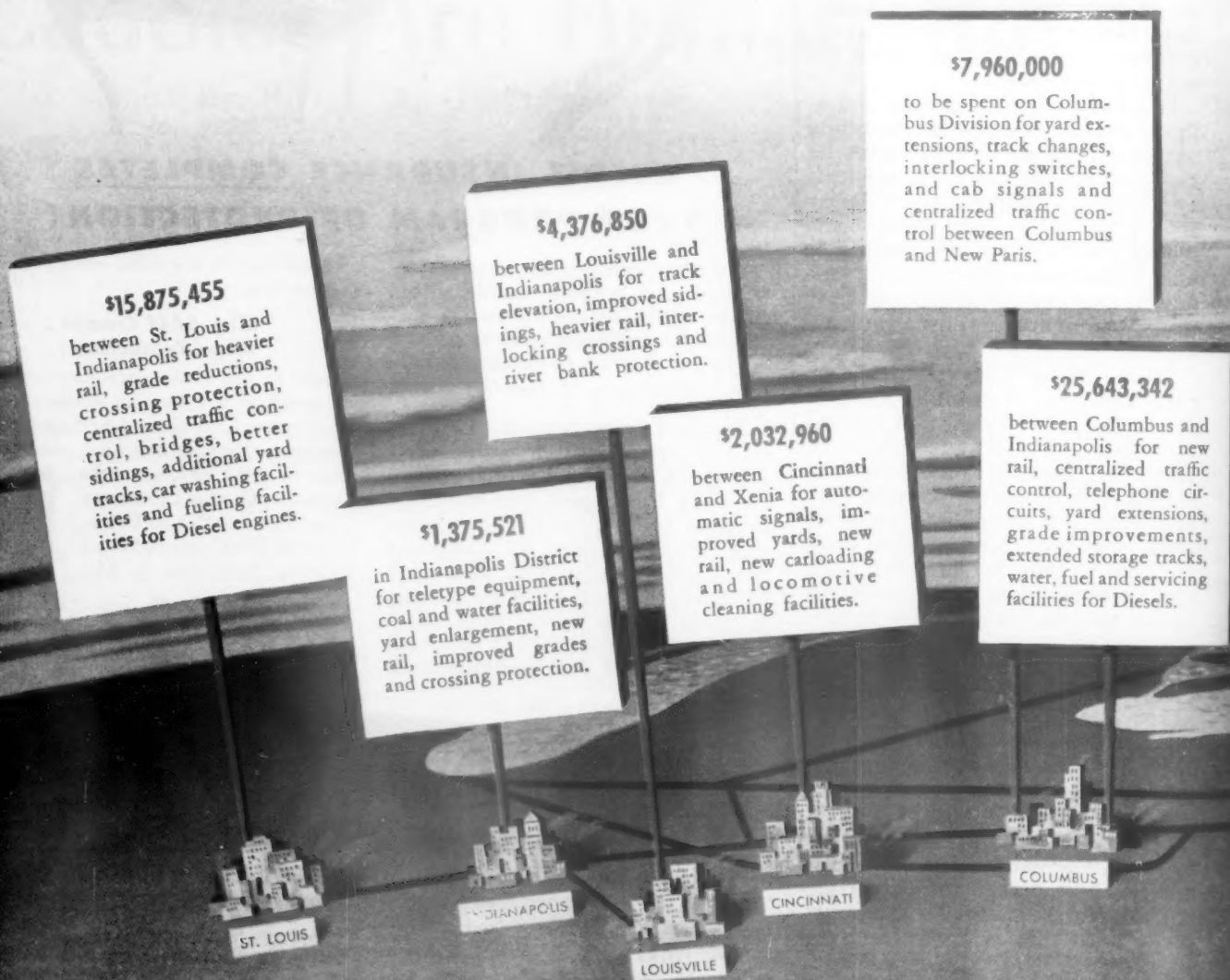
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\$81,000,000 IN

For Better, Faster Service over this Short, Direct

Anticipating the increased shipping needs of the fast-growing South and Southwest, and preparing to meet them, the Pennsylvania Railroad is completing an \$81 million program to improve its lines and facilities between Pittsburgh and St. Louis. Through Pittsburgh, the Pennsylvania offers a short, direct rail route between the East, West, South and Southwest via a choice of gateways.



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on Panhandle Division for latest tunnel eliminations, easier grades and curves to avoid detouring big box cars and over-size loads.

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For new Rosslyn interlocking and future change of line on Hanlin Hill, Panhandle Division.

\$14,674,654

for new rail, Pittsburgh to Columbus, enginehouse additions, Diesel servicing facilities, track realignment and yard extensions.

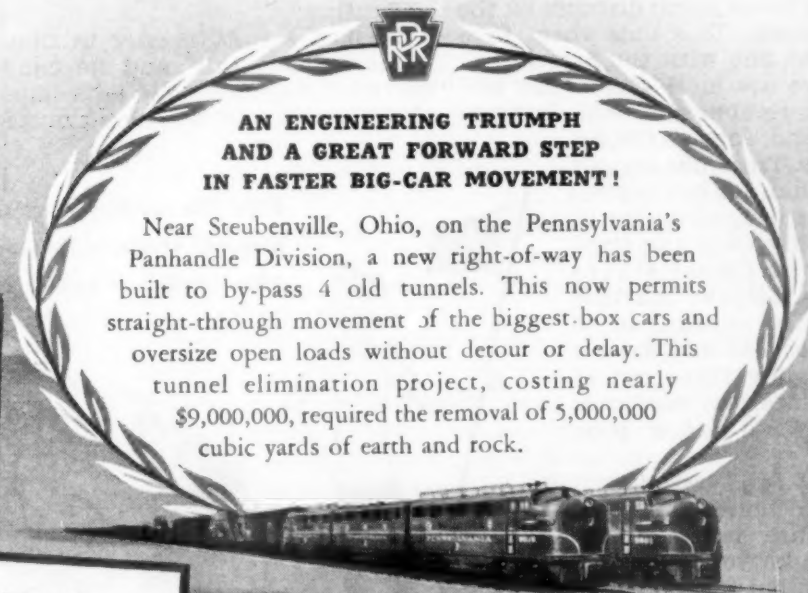
AN ENGINEERING TRIUMPH AND A GREAT FORWARD STEP IN FASTER BIG-CAR MOVEMENT!

Near Steubenville, Ohio, on the Pennsylvania's Panhandle Division, a new right-of-way has been built to by-pass 4 old tunnels. This now permits straight-through movement of the biggest box cars and oversize open loads without detour or delay. This tunnel elimination project, costing nearly \$9,000,000, required the removal of 5,000,000 cubic yards of earth and rock.

STEUBENVILLE

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should stand by with his hand on the pole until the player tells him to remove it. If the player doesn't say anything, he should wait until the player actually swings, then take the pole out."

"Another way a caddy can help a golfer," McGlone interjected, "is in judging the distance to the green after his player has made his first shot. Distances are deceiving on many courses, particularly where there are hills in the way. A player might figure the distance to the green as about 175 yards. If it's a good lie, he may want to use a short wood, but the caddy might figure the distance greater and suggest a longer wood."

"How about it?" I asked a 15-year-old caddy whom McGlone considers one of his best boys. "Can you tell me a way you have helped a golfer?"

"Sure," he said. "On the fourth tee, nearly every new golfer here wants to play it straight down the middle. There's a trap in the way of the green that you nearly always get into, especially with a little wind or a slight hook. So I always tell them to play to the right and not try for as much distance on the first drive. This puts them in a straight line with the green."

There are more than 4,300 private and public golf clubs in America, and some 5,000,000 players. The clubs employ more than 100,000 caddies ranging in age from ten in states like Ohio and Connecticut (most states have a 14-year starting range) to veterans of 40 or more. You may draw a good caddy three out of four times, but once in a while you'll get a poor one.

"That can't be helped," says McGlone. "Caddies today are much better than those we had during the war, but there's still a shortage of them. I send new boys out three or four times with old-timers to learn the ropes before turning them over to members. After three loops on his own, I can tell if a boy will make the grade."

"During the war and for a year after," another pro told me in upstate New York, "the caddy situation was pretty bad. It was nothing for a caddy to tell a player or caddy-master to go jump in a water hazard. And the

boys were pretty hungry for dough and always complained if they didn't get a good tip."

In those days, the situation was so bad as to be almost ludicrous and a number of stories illustrating their attitude circulated. One of the most common was about a fellow who hadn't played since he entered service. When he appeared at his regular course after being away for a few years, he felt a little rusty. He was satisfied, however, with his game and at the end of the third hole he asked the caddy: "How do you like my game?"

"O. K.," the caddy snapped, "but I like golf better."

A variation was about the duffer who spent most of his time in sand traps and water hazards. "I'm away off my game today," he alibied.

"Oh, so you've played the game before?" the caddy cracked.

"Today there's very little of that," says McGlone. "Caddies are better and golfers more reasonable. There are more people playing golf than ever before, and they are more liberal than before the war, so the boys don't complain as much about tips."

I asked a caddymaster in Cincinnati about this, and he concurred. "Naturally, the boys hate cheap skates, but they don't make

as much of a fuss over them as they used to. After all, they are sure of their fee which is \$1.75 for 18 holes for a Class A boy, and \$1.25 for a Class B. They can usually count on a quarter tip each nine rounds, and they sometimes do better.

"The only trouble I have is getting boys to go out for a second loop in a day. I don't know what's got into the boys these days, but they're not as ambitious as when I was a caddy 15 years ago. They don't seem to need money as much as we did then."

Finally, I asked some caddies at several clubs what they had against players. "I hate slow-pokes the worst, especially women," one youngster told me. "Women yak-yak all the time about clothes and things, and slow up the game. They're poor tippers, too."

"Show-offs are my pet peeve," another boy replied. "They're the guys who make a production out of each shot—clown around—and try to be funny. But they're not. They stretch out the game. And another guy who gives me a pain is the one who keeps us sweating on the bench after we've been assigned to him, while he goes into the nineteenth hole and lifts a few. Another kind of party we don't like is one that comes out late in the morning then knocks off for lunch after the eighth hole or so. We have to wait until they get back, which means a sure five-hour loop. How can we go another 18 holes that day?"

"Worse than a slow-poke," another boy told me, "is the jack rabbit. He must eat a lot o' spinach, 'cause he gallops over the fairway like he's catchin' a train."

"Yeah," another older lad told me, "some of these players think that just because they belong to a swanky club they can treat us like dirt. I had a guy bawl me out all over the fairway last week for every little thing—and it was mostly because he kept hooking and topping the ball."

In any case, by and large, the caddy can help you play a better game if he is on the ball. The next time you go out, take another look at him and cultivate his respect, without becoming too chummy with him. He may help you bring your score down to win a tournament.



For Big Men Exclusively

WHY SHOULD men with big, out-sized feet have trouble buying shoes that fit? Why should they have to pay \$40 or \$50 for custom-made shoes?

Four years ago in Brockton, Mass., three young ex-G.I.'s tossed these questions back and forth among them. And out of the challenge was born a small mail order firm catering exclusively to big-footed males.

During the war, two of the partners had done a short stint with companies filling contracts for G.I. shoes. They were impressed with the number of orders for very large or out-sized shoes. They asked themselves: After the war who would fit these feet?

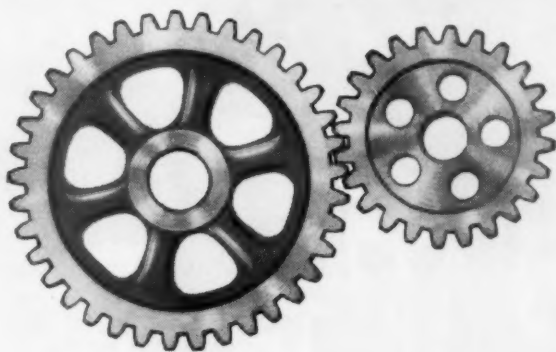
In 1947, the three men—Bernard Z. Lazerus, Manuel Alter and Arthur Alexander—launched their idea. At the end of the first year the new firm had only 1,000 customers—about break-even point. By the end of 1948, however, the customer list had shot up to 6,000, the gross to \$88,000. Today the list tops 8,000, the gross more than \$100,000.

Of the country's 52,000,000 adult males, it is estimated that about two per cent wear big (sizes 10 to 16) shoes. Thus the firm figures a "paper" potential of about 1,000,000 customers, of which five to ten per cent would bring a gross of from \$500,000 to \$1,000,000 annually.

Orders come from every state, and from many foreign countries. Despite the wide size range carried, the firm is still challenged occasionally. Recently, for example, an Albany, N. Y., man bought a pair of size 18 shoes. Then he wrote saying he needed a pair of rubbers for the shoes, adding that one company wanted \$600 to make him a pair. Good will, reasoned the three partners, was certainly worth something. So they had the rubbers made, presented them to the man. No charge.

Despite the peculiar problems involved in this unique venture, the firm has not only created a profitable business but a personally gratifying one. As one of the partners expressed it, "We get a real kick out of helping the guy who can't find help elsewhere. In a way, ours is a sort of social service as well as a business proposition."

—WILLIAM A. ROSSI



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WHAT is clean and what is dirty in your line? Here is a foundation that does nothing but research on problems that affect the welfare of Americans in every field of endeavor

Sanitation Pays Its Way

By JACK HARRISON POLLACK

ABOUT three years ago the tavern keepers of Syracuse, N. Y., were in a bad way. With an epidemic of mouth diseases sweeping through the city, dentists and doctors were advising their patients to do their elbow bending at home and shun the pubs which allegedly were spreading the infection by improper sterilization of their glassware.

With bartenders facing unemployment and owners facing bankruptcy, something had to be done. A twofold educational campaign was launched by the industry in cooperation with the local health department, one phase designed to teach dramshop proprietors satisfactory methods of sanitation, the other to acquaint the public with the fact that taverns were up to par healthwise.

As they reached standard, metal signs proclaiming their cooperation with the health department were awarded taverns. Bars vied with one another for the best sanitation records. Soon they were among the cleanest places in

town. Lost business was recaptured and potential white elephants became valuable properties again.

Much of the credit for the accomplishment in Syracuse belongs to a little known but highly influential organization which sparked the campaign behind the scenes. It is the National Sanitation Foundation, headquartered on the campus of the University of Michigan at Ann Arbor. Although a relative newcomer to the public health field—NSF observed its sixth birthday in November, 1950—the organization already has made notable strides toward the establishment of uniform sanitation standards based on the findings of scientific research. As a result of its 12 completed projects the public has more adequate safeguards, and industries concerned with public health problems have more clearly defined ground rules under which to operate. Additional benefits are in prospect from other research programs.

The need for such undertaking is illustrated by the fact that today

the United States has approximately 20,000 different sanitation codes—federal, state and local. They bleed business men of millions of dollars annually and often befuddle their operations. What applies in one part of the country is often the opposite of the rules laid down elsewhere. As a result, many manufacturers and operators have the dual problem of not only selling their equipment but trying to keep their doors open and avoid arrest for "violating" these little understood, often unjustified ordinances.

A dozen federal agencies concern themselves with sanitation. In states, three overlapping bureaus often have jurisdiction. Locally, the job of inspection, code writing and equipment specifying may be divided between your health, police, fire or street departments; city engineer's office; plumbing or weights and measures inspector.

Grocery rules and regulations also can drive business men daffy. Though the federal Food, Drug and Cosmetic Act of 1938 generally is

considered a model law, only 18 states have adopted it. Even states claiming to follow it, have issued rulings at variance with it.

"Many states also have special product laws which conflict with other state as well as the federal laws," reveals Paul S. Willis, president of the Grocery Manufacturers of America. "All bakery products sold in Pennsylvania must bear a special state label. A statement of added color in cheese and butter is required by Connecticut, Florida, Louisiana and North Carolina. Ohio requires extract labels to state alcoholic content. Colorado, Georgia, Idaho, Illinois, Iowa, Kansas, Massachusetts, Minnesota, Montana, Oklahoma and Pennsylvania require a specific size of type for food labeling. California and Michigan prescribe a color designation for honey. Wisconsin bans artificial color in macaroni products and prohibits any benzoate of soda as a preservative in food. There is also a wide diversity of restrictive state legislation dealing with milk and dairy products, meat, bread, flour, foodstuffs and soft drinks."

Finding a scientific basis that will permit agreements in sanitation is one of the chief purposes of the National Sanitation Foundation.

Typical of the projects it launched was one to establish standards for the washing and sterilization of dishes in public eating places. Here was something important—not only to those who dine out regularly—but to thousands of restaurant proprietors, to the manufacturers of dishwashing and sterilization equipment, and to hundreds of state and local health departments.

Even a casual examination of health regulations governing public catering establishments showed the need for the project. The U. S. Public Health Service code specified a two-minute rinse period at 170 degrees for restaurant dishes but many town and state laws specified different times and temperatures ranging from 130 to 200 degrees. Why? Because no impartial research had been done on the subject. It had been left to business and bureaucratic guesswork.

Rolling up its sleeves and digging into its meager pockets, the NSF launched an all-embracing dishwashing study at Michigan State College in East Lansing under the supervision of Dr. W. L. Mallman, professor of bacteriology. All types of dishwashing machines were analyzed for the most desirable temperatures and holding periods



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Match your Business Tools to your Business Tasks



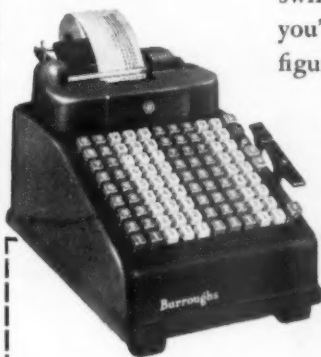
Martha's figure work at the Larson Lumber Company is all in feet and inches. Annoying? Not at all! Her electrically operated Burroughs computes in fractions, gives her the right answers fast!



At the Bon Ton, Emily spends hours listing sales by departments. She'd spend a lot more time, though, without her two-total Burroughs. It supplies department totals plus a grand total of all departments in a single run.

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in an effort to find out the best way to wash dishes mechanically.

The study showed that machines could be made more efficient by changing the design of their trays, the angle at which the water hit the dishes and in some cases the length of time in which the dishes were in the machine. Grateful manufacturers immediately redesigned their equipment. Copies of the trail-blazing NSF study were mailed to every health department in the country in an effort to unify dishwashing codes.

That a great many health departments already have drafted new regulations based on NSF recommendations sheds light on another of the organization's virtues. Because its research is conducted by impartial agencies, usually by an appropriate department of a recognized college or university, its findings get ready acceptance. Far too often manufacturers have conducted research into the performance of their own products, only to have their findings suspect as being biased from selfish motives. Hence more and more business men are bringing problems of public health research to the Foundation.

Today the NSF is supported financially by more than 100 business sponsors including manufacturers of glassware, dishwashing machines, soft drinks, soda fountains, detergents, silverware, and chain drug companies. It also mobilized the talents of scores of specialists from America's leading public health schools and health departments.

The Foundation's spark plug is its husky, mustachioed executive director, 43-year-old Walter F. Snyder. An efficient administrator, Snyder has been trying energetically to sell sanitation as a way of life instead of in terms of laws and ordinances. The Foundation came into being when Snyder, then a Toledo, Ohio, sanitation officer, observed that a local restaurant license was issued by the health department but a state restaurant license was issued by the fire marshal's office. More important, he observed the need for greater teamwork between business and public health. He took up the idea with doctors engaged in public health work.

"Here's a chance for business to assume leadership, police itself, clean its own sanitation house and show that free enterprise can set a pattern for democracy," Snyder pointed out.

These doctors agreed. So did a small group of farsighted business

men headed by John H. Wright, at the time a vice president of Owens-Illinois Glass Company, who gave the go-ahead.

With a grant of \$50,000 put up by the Libbey Glass division of Owens-Illinois, the National Sanitation Foundation was organized Nov. 27, 1944. Its first-year budget was a modest \$75,000. After such fundamentals as the hiring of a staff of six full-time and 25 part-time employes and the obtaining of laboratory space, the NSF got down to its basic job of research into health problems of mutual interest to the public and business.

Its guiding method of work has been: "Find out what is the best—and safest—way to do something, then encourage standard practices throughout the U. S." This scientific-public relations approach has enabled manufacturers of dishwashing, utensil, detergent, sanitizer, laundry, drinking straw and other equipment to improve or evaluate their products, save themselves money—and protect the public's health. More than one business man has told Snyder, "If my product isn't 100 per cent, the sooner I know about it the better for everybody."

"Much of the confusion between business and public health stems from misinterpretation and unclear explanations on both sides," Dr. Henry F. Vaughan, president of the NSF, said recently. "But when they understand each other

and tackle a problem jointly they invariably lick it." Dr. Vaughan, who is also dean of the University of Michigan School of Public Health, was Detroit's health commissioner for many years.

Soda fountain manufacturing is an example of how the NSF helped business and health officials iron out their differences. Listen to how Carl J. Palmer of Chicago, Soda Fountain Manufacturers Association executive secretary, explained it to me:

"With the best intentions in the world, soda fountain manufacturers found it impossible a few years ago to build and install equipment which would be universally acceptable. A fountain that was acceptable in one town might be rejected by another health department only a few miles away. There was no uniformity of requirements and no clearinghouse for ideas. Even if it had been possible to accumulate and tabulate the thousands of code requirements (which it wasn't), no national manufacturer could have afforded to try and incorporate all the ideas into a composite soda fountain. Conflicting specifications, alone, would have prevented such action. The cost of dies and tools to gold-plate a 'super' fountain would have been prohibitive, especially since there was no reason to believe that specifications wouldn't change soon.

"The National Sanitation Foun-



Even Geiger counters play a part now in studying how effective certain washing machines are in eliminating dirt from clothing

dation, therefore, was a godsend, giving us a chance to get together with health officials to discuss mutual problems. The result? A recommended program for improving construction and installation of soda fountains. It was believed—and has since proven true—that recommendations resulting from such a meeting would be acceptable to most conscientious public health officers in the U. S. Our association immediately began implementing the recommendations by preparing detailed specifications to guide manufacturers and serve as a check list for public health and soda fountain operators. These specifications are being widely distributed. This has been a milestone in our industry and proves it is possible for conflicting interests to unite on a workable program when the NSF is behind it."

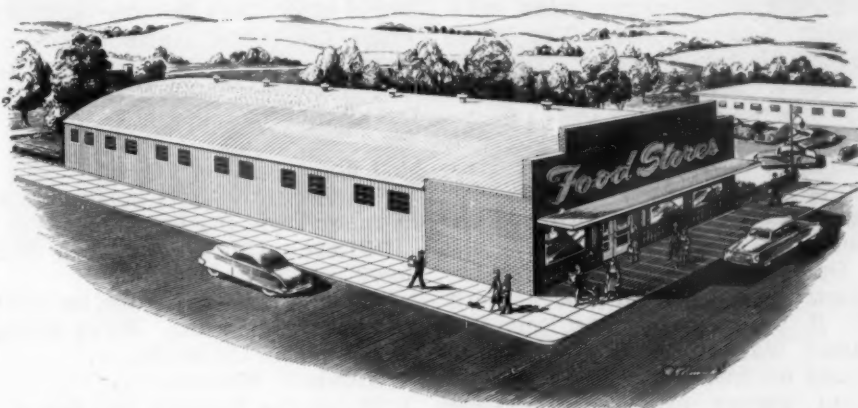
A few years ago the American Washer and Ironer Manufacturers Association made a grant to NSF to determine the truth or falsity of the periodic charge that automatic laundry machines spread disease. Through research it was learned that bacterial residuals on cloth cannot be measured by ordinary bacteriological sampling techniques. Laboratory work led to the use of radio isotopes as a new tool in combination with bacteriology for the determination of soil and bacteria removal from contaminated articles. Through the use of radio isotopes, it is now possible to tell, with a high degree of accuracy, the results of a cleaning procedure.

Besides research and recommending uniform, easily understood codes, the NSF has many other projects on tap. In June, 1951, it will stage its second sanitation clinic at Ann Arbor. The first clinic was held there in June, 1948. More than 500 business and public health leaders met to discuss food sanitation problems ranging from rat control to vending machines. "I had a chance to talk to several hundred public health people there at no more cost in coming to the clinic than in making a single call to a health department to straighten out a problem," one food manufacturer told me. Proceedings of this clinic—which you can get by writing to the NSF—are now being used as a textbook by health officials and manufacturers of food service equipment.

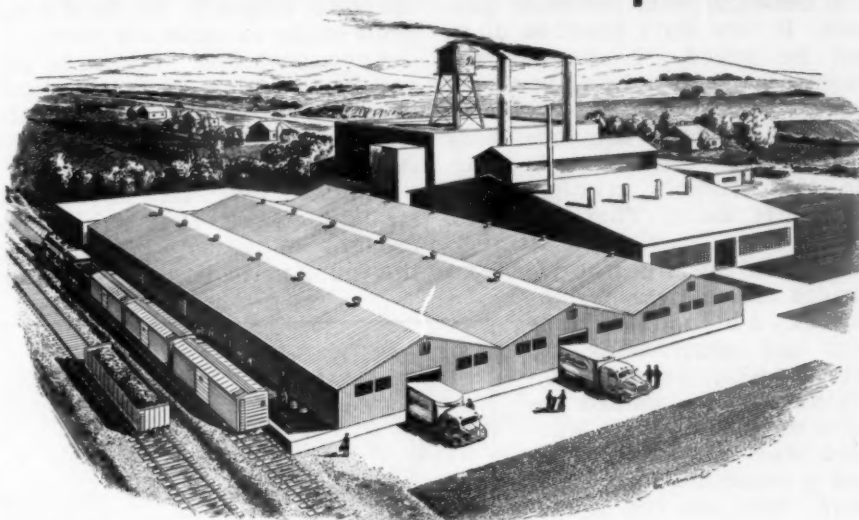
Other projects on the NSF agenda include establishing an unbiased sanitation testing laboratory.

(Continued on page 73)

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Tough to Beat

(Continued from page 48)

Dave's eyes sprang wide with alarm and anguish. The news jarred his tongue loose. "By God, I won't take any more of them Ay-rabs ner camels!"

W. B. laughed. "Oh yes you will, Dave. By the way, there's one more thing. That new man of yours with the coco-mat chest—fire him. Now."

Dave drew himself up to tell his client what lake of hot asphalt W. B. could jump into, but Bill didn't wait. He knew he could count on his orders being obeyed after Dave's casing-head anger blew off.

Hank Cottonapron half rose as the car passed his shanty on its trip outward from the mule pasture. It tore Bill's heart to do it, but he yelled, "Looks like the chocolate cake will be all you'll get out of it, Hank." He caught a glimpse of Hank dropping back into his chair, the chair collapsing. He told himself grimly, "Well, that's life, Hank. That's business. That's love. That's wildcatting."

The following noon, Alexa Skaggs tossed herself nimbly from a high, dusty horse that had been taking her over the Skaggs ranch's 60,000 acres. She walked toward the patio and its blue-tiled pool. She gave a tug and a heave-ho to her wet shirt. She slid the horse-sprung jeans down off her hips. She kicked her boots off and shed her socks by stepping on their feet. What was left on her would have made two stamps for a letter, if she'd been a letter. She mailed herself with a sprint down the springboard and a curved dive. She churned the length of the pool, feet and elbows flashing.

"Beautiful!" called Joe Gatewood.

"What are you doing on that porch?"

"Smoking a good cigar."

"Dad will be furious! He didn't give you that!"

"Does this smell like one of his stogies? The cheap aroma your old man wraps himself in! I paid two bucks for this."

"You're mighty fresh, lurking there and watching me peel off. You did watch, didn't you? Now you know exactly what I look like underneath."

"Nice study in subsurface geology. Beats anything at the university. . . . I thought dames had to wear 'em in pink."

"I wear 'em in blue because that's what they become anyway when the horse starts sweating. Turn your back, Joe. I'm coming out, and Carmelita's looking from the kitchen. Turn, and keep walking."

"I don't stay for lunch?"

"Dad wouldn't have it. You know he made Dave fire you."

"Where's the old sausage bull now?"

"If you mean my parent, he went to town on business. We're flying for Yemen in the morning."

"Yemen? Where's that?"

"It's on the Red Sea, like Egypt."

Eight Sundays following, Joe Gatewood called again. He found W. B. Skaggs, that hard-to-beat operator, sitting in the hard armchair on the ranch house porch.

Announced Joe: "I crave to call you papa-in-law, you old rum-dum. I been waiting two months less five days and 15 minutes to settle this."

Rumbled W. B., sitting up straight, "Must that subject be brought up again?" He inspected the young man. Bay rum—but not

I mustn't forget what I'm here for. I want to call you daddy. Do I get to do it, you old moose-face?"

W. B. half bounced from his chair. "Get this straight, before I call the hands and have you slung out. If my daughter is determined to pick a mate, by the gods he's going to be a man."

"And just what, in your view, is a man?"

"Well, to begin with, he's not a jug of toilet water. Not a rose jar. He's a man's man and a Texas man's man. Besides being all man, and not a he-Cleopatra, it would be real nice if he was a man who knows oil. Just to keep things congenial around here."

Joe jammed a cigar of his own between his teeth. He remembered his manners and offered one to his host. "Throw away that gas flare of yours, sir, and try this. Seen old Hank Cottonapron lately?"

"Certainly not. I have just returned from Arabia."

"Carpenters are all over his house. He's keeping the original part of it for sentiment and because he can reach the rail with his socks. The new wings are each 60 by 100 feet."

"Hank? What for? And how? We threw up our lease."

Joe offered W. B. two more cigars. "Put 'em in your pocket. Well, sir, Hank's a married man now. And can that little Laredo widow-gal cook!"

W. B. took his time considering this. Finally, "Go ahead. Talk." W. B. knew when to let the other fellow talk. That was one reason why he was hard to beat.

"Take four more cigars. Compliments of the president of the Gatewood Oil Company. Does it interest you to know that there was real oil sand in that hole of yours? You and Dave slid right past the stuff. Where was your so-sensitive nose?"

W. B. took his handkerchief and blew that member. "Go on."

"Soon as Dave pulled his

tools, I formed a company."

W. B. smoked hard. He'd taken his share of lickings from nature, but few from man. He'd been tough to beat. But his voice, when he spoke again, was several notches milder. "And where," he inquired, "did you raise the money for this company of yours?"

"Where does anybody raise dough around here? I went to Houston. To the Texas State Hotel. That's where the money gathers to



"They forgot to leave the bread"

perfume—on the mutinous hair. Sport jacket, very tweedy. Polo shirt. Knife-edge slacks. Two-tone shoes. For a roustabout who'd been canned from his job, Joe was certainly duded up.

"My! You sure are packaged pretty," observed W. B.

"I'd ask you to step around behind a derrick with me," said Joe, "and swap a few clouts, if there was a derrick handy. You sure like to give with the fighting words. But

eat lunch. I showed sample corings and I invited that bunch to help me take you."

"The friends I play poker with!" exclaimed Bill Skaggs.

"Could be. I've got a board of directors that reads like the RFC. And do they like my weekly reports! The field's getting wider and longer each day. Shell and Humble offer chunks of the United States mint for it.

"So-o-o," said Joe, "as one oil man to another, how about admitting me to the family? Much as I hate your guts."

"Not yet. There's still my original prejudice. Dad gum it, how do I know when you'll start smelling again like a bride's bouquet?"

Alexa appeared, drawn by the voices. In crisp Sunday jeans and cool white shirt.

"Ah, that trouble the day we met," said Joe to W. B. "I would have explained, sir, but you sort of riled me. I broke the bottle coming through your gate. A quart for Lexy—channel water No. 5. Why in hell don't you fix that chuckhole before it cracks an axle? Soon as the damn thing busted, I wanted out, but Lexy came running and threw a half nelson on me."

"I didn't! It was a flying mare!" cried Alexa.

"Ah!" murmured Bill. He measured his next words carefully. "Does it interest you to know, young sprout, that I was fully aware what was in those 10,000-foot sands? Did you think they fooled me? Or Dave Holter? Does it entertain you to know that the money you raised was 75 per cent mine? That your directors act for me? That your profits are mainly mine? W. B. Skaggs is still tough to beat."

"Twiddle - twaddle, dad," remarked Alexa, bored. "What counts is that I love Joe. I love him so much that I was even willing to be packed off to Arabia for eight weeks. Gave him a chance to concentrate."

"What I want to know," said Joe, mad all over again, "is, where do I stand now with the old bubble-face?"


"He likes you, Joe," said Alexa, "though I don't think he will in a minute."

"You see, sir," said Joe, "Alexa and I were married the day before you left."


W.B. slowly ground out his cigar. He got up heavily. "I know oil. I know men. In some quarters, I know poker."

"But a girl is always a wild deuce in any deck, isn't she? Son, let's go in to dinner."


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The Stalemate in Local Taxes

(Continued from page 39)

form of business tax. Birmingham, Ala., has added \$1,000,000 to its annual income from business and commercial licenses. The Social Security Board has undertaken studies to determine these tax capacities. More cities should make use of them, the expert recommends.

Cities can have the freedom to raise more of their own revenue without increasing the over-all tax bill excessively. What is needed, the experts counsel, is a redistribution of tax authority. Washington, they believe, can afford to loosen its stranglehold and relinquish to cities taxes such as those on luxuries, admissions and amusements. For levies of this kind serve municipal purposes best.

They are convenient vehicles for reaching former residents of the city who have moved out but continue to tap its services. The same thing applies, the experts add, to sales and liquor taxes now collected by the state. No one would deprive the federal or state governments of cash to finance essential programs. But, in the consensus of experts, "tax resources which can be administered adequately and efficiently by local governments—should be left to them in order that each area of government should be able to provide more effectively for its own needs."

The man on the street doesn't really care to whom he pays his

taxes, one city official explained. His grave concern is that duplication—paying the same taxes to all three government branches—doesn't hit his standard of living. From the city's viewpoint, the freedom to tax is the freedom to run its own affairs.

Mayor Albert D. Cash of Cincinnati told the annual National Conference on Government at Buffalo, N. Y., last fall that the only way many cities can now meet their growing responsibilities is by dealing directly with Washington. "We may expect the entry of the federal Government into more and more fields of activity," he asserted, "because the activities in which it engages are those demanded by the people, and they are not being performed by the proper unit of government."

New York's Lieut. Gov. Frank Moore, former state comptroller, a strong proponent of greater municipal self-reliance, believes the way out is for cities to dip in more directly to nonproperty tax sources. "As a member of the family of governments," he has said, "local government is entitled to a fair share in the family income from sources other than the real property tax."

In Wichita's case, state laws act as obstacles. But elsewhere, many states have cleared the way for more local tax freedom. Carl H. Chatters, executive director of the American Municipal Association and a leading authority on govern-

ment finance, insists that this is also the most economic method of government operation.

Grants-in-aid and shared taxes, he says, are potentially wasteful. They are made not only to those cities which need them, but to everybody, for political reasons. The result is heavy federal taxation. The money has to be raised for both the community with a bona fide problem and others riding the gravy train.

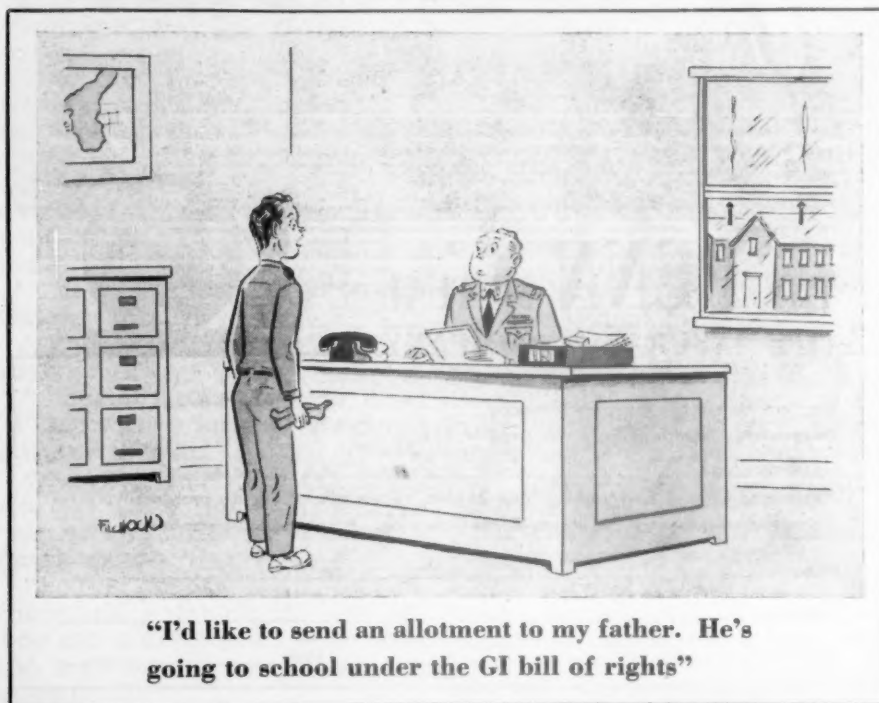
Moreover, the cost of grants and tax-sharing is burdened with extra expense. Call it a broker's fee. For every dollar collected by the federal or state government and returned to the cities, several cents are lopped off as a handling charge. If business men would agree to more tax-raising by the cities, Chatters believes, their over-all tax bills could decrease. Payment of taxes to cities would be deductible items on the federal and state income tax returns. Also, down would go the high amounts of taxation necessary to enable the indiscriminate distribution of federal and state grants.

Some states have recognized the problem and forged ahead with tax latitude to local communities. Three years ago the Pennsylvania legislature granted cities and towns the right to tax anything not taxed by the state provided the collections don't exceed the general property tax yield. New York lets its larger cities introduce their own sales taxes. Other states have followed these patterns with their own variations.

As a result, a new look is creeping into city taxes. It runs from the practical to the ridiculous. There are standard and realistic municipal taxes on sales, income and liquor. There are amusement and admissions taxes; restaurant meals, radio, hotel and motel taxes; corporation taxes; taxes on advertising signs and fuel pumps.

Occasionally, liberty is confused with license. Two communities in Arkansas, for instance, levy taxes on artificial limbs. The state capital, Little Rock, has a \$25-a-year tax on "the sale of watermelon, sliced, when served on premises and no other license is paid." Many cities tax slot machines, juke boxes, dart games, checker and domino games played in public parlors, street pianos and organ grinders.

Mississippi turns up an unusual one. The state is dry—in name only. Writes the treasurer of a moderate-sized city there: "We have some uneasiness now and then over the liquor fines. You see,



"I'd like to send an allotment to my father. He's going to school under the GI bill of rights"

the police raid the bootleggers once a month and charge them \$100 each. Most of our citizens like their snort and approve of this. Only a few of the temperance crowd really want the liquor people put out of business. So far, the fines have given us lots of good revenue. So the city council feels it may as well get the benefit since it can't stop the people from drinking, anyway. But we haven't been taken into court by any of the objectors—yet."

When given the chance to bolster its financial position with more local tax initiative, what can a city do? No single pattern fits them all. What benefits Peter may be the ruination of Paul. Size, geographical location, stage of growth, standard of services demanded by residents, character of its economic life and of its wealth all affect the situation.

Of course, the complete picture is not only the struggle for a better cut into the tax till. Many cities need thoroughgoing housecleanings to shake off superfluous waste. In several places, citizens committees on the search for new possible revenue sources have dug up suggestions for budgeting the available tax dollar more prudently. Millions, they have shown, may be saved by study and action. It can be done without trimming salaries, firing a single employe or imperiling an imperative service. The problem, such groups have discovered, is to separate the administrative wheat from the chaff.

As the experts advise, we need another close look at cities and their tax stalemate. Some streamlining is badly needed. More necessary, however, is prompt revision toward giving the city a more equitable slice of taxing power. The power to tax is the power to destroy. The truth of this has been sorely demonstrated to U.S. cities. But they need that power themselves because it also is the city's power to survive as an independent political entity.

Adjustments follow every upheaval. The revolution of the cities has to be studied and its twisted remains straightened out. Unless they get back to carrying a more significant part of their own loads, the whole fabric of our government structure may be threatened with the elimination of local units in anything but name.

It is doubtful whether this municipal revolution has reached its end. But those interested in preserving more than the form of the city are already at work trying to put the pieces together again.

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New Highways to Health

By LAWRENCE GALTON



Dr. Tillett worked 12 years to find streptokinase

A WHOLE new approach to better living—both medically and industrially speaking—is on the way, thanks to the discovery of increasing numbers of chemicals present in the human body as well as in plants and animals.

Some of these substances have come from the most bizarre of sources, others from the most prosaic. Known as enzymes—these chemicals rapidly are establishing themselves as the darlings of modern science.

Some years ago about all that people heard of was calories; small calories and large calories. You got calories out of the amount and type of food you ate; if you needed more energy you ate heat-producing foods. Then came the day of vitamins. Certain vitamins were essential, so the word went out, to normal nutrition.

Now we have enzymes. It's enzymes that regulate breathing, digestion, every activity. And it's enzymes that are opening up some of the most imagination-stretching new highways to health.



PHOTOS BY R. P. NESMITH

... and Dr. Christensen succeeded in purifying it

REMEMBER when vitamins were the rage? Now it's enzymes. They'll aid breathing, tenderize your meat

Weeks after a young man had been wounded by a bullet, he lay in a hospital fighting a losing battle. In the hospital, too, were a little girl with a deep-seated bone infection, an elderly man with a lung abscess, and a woman with heart inflammation.

Everything, including antibiotic drugs, had been used on them. In all four cases, accumulations of pus, clogged blood and dead tissues were balking the healing process, were even blocking off the antibiotics so they couldn't get near their targets.

Then doctors decided to try injections of two new chemical substances.

Back in 1933, Dr. William S. Tillett, now chairman of the Department of Medicine at New York

University, had been toying scientifically with the streptococcus, the highly infectious and once deadly organism associated with rheumatic fever, bronchial pneumonia and many other ailments. Tillett, in the course of many tests, made an intriguing discovery: something in the fluid given off by the bug could dissolve human blood clots.

It was 12 years before Tillett could identify and name the active agent streptokinase, and Dr. L. R. Christensen, an N.Y.U. microbiologist, succeeded in purifying it.

Then, in 1947, Tillett and his associates made another discovery. In the fluid, along with streptokinase, was another substance, now known as streptodornase, which could make thick pus turn thin and watery.

It was a combination of these two substances that doctors decided to try on the four hospital patients. The results were dramatic.

Within 24 hours, the injections got to the source of the trouble and liquefied the deadly debris. Thereafter, it could be removed through a tube like so much water. The patients shortly were on their way to recovery.

The chemical injections have done the same kind of job in stab wounds, pneumonia, and chest infections.

They have saved the situation in patients whose lungs, after injury or infection, have filled up with heavy fluid that interfered with breathing and couldn't be removed readily. In tests on tuberculosis, they've shown the ability to dissolve the protecting wall with which t.b. germs surround themselves, leaving the bugs defenseless and capable of being destroyed by the body's defensive mechanisms.

"A therapeutic landmark," the awards committee called the new technique when it gave the 1949 Lasker Award of the American Public Health Association to Doctors Tillett and Christensen.

The medical advance is only part of a far bigger story. For the significant fact is not that the two healing agents come from the inimical strep bug, but that both are enzymes—just two of a large group of chemicals that rapidly are assuming world importance.

Enzymes are present in dazzling variety in all plants and animals—in all living organisms, in fact. They are biological catalysts—which means they have a magic touch, originating and speeding up chemical reactions in living ma-



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terial without themselves being used up in the process.

At a southern hospital recently, doctors trying another enzyme on a group of elderly patients hit on a possible solution to one of today's great and growing problems—what to do with the increasing number of people who, because of senility, are overcrowding mental hospitals.

What's the mechanism that makes many oldsters, once mentally alert, become dull—often to the point where they're incapable even of taking care of themselves?

Medical men have been trying for years to find out and the answer still isn't known. But a group of researchers did find, in 1926, that the blood vessels that feed the brain are larger and more numerous in men of high intelligence. And, over the years, based on reports from many laboratories, an intriguing theoretical definition of the whole thinking process began to evolve: that it's an electrochemical activity carried on when blood sugar is broken down in the presence of oxygen.

Researchers analyzed blood content and used electric waves to measure brain activity. They found that activity increases when blood is rich in oxygen.

Meanwhile, other scientists reported that an enzyme called Cytochrome C is an important link in the oxygen-using mechanism of the body. They got the enzyme out of beef and horse heart tissues, injected it into dogs and found that it increased the oxygen in the latter's blood. Then, at the Joseph H. Pratt Diagnostic Hospital in Boston, researchers tried Cytochrome C on certain patients troubled with diminished supply of oxygen in the legs. The enzyme provided relief.

Could it be that in at least some senile people, the enzyme might help by furthering brain cell oxidation?

At the University of Virginia Hospital at Charlottesville, Va., Drs. Richard W. Garnett and Walter O. Klingman determined to try injections of it in a group of patients suffering from senility and arteriosclerosis—their memory, brain power and general functioning so downgraded that hospitalization had been necessary.

Many improved so markedly that they could be released—newly vitalized and able to get along satisfactorily on their own.

As the two doctors point out, other enzyme systems are involved in brain cell functioning. Their experiment, while only a beginning, has opened a new door, a whole new approach to a problem that previously has not had too hopeful an outlook.

Another enzyme has accomplished astonishingly diverse feats.

A researcher working 22 years ago discovered that if an extract from a rabbit's testicles was injected during the vaccination of another animal, the germs spread more rapidly. The extract had the effect of making the animal's tissues act like a blotter, soaking up the injected germs.

This "spreading factor" was found to be an enzyme called hyaluronidase. And the spread is accomplished because the enzyme actually breaks down barriers between cells and allows fluids and other substances to pass through tissues.

It was found later that hyaluronidase could be prepared commercially from bull testes. Its appearance on the market proved a boon to people with toothaches.

In the old days, before extracting

a tooth, a dentist would jab a needleful of Novocain into the gum to deaden the pain. Too often, however, because the needle had to be jabbed into the proper tiny nerve, the process had to be repeated until the needling itself was more painful to contemplate than the actual extraction.

Now, when hyaluronidase is injected along with the Novocain, it causes a rapid spreading of the painkiller. Even if the needle lands some distance from the nerve, the extra margin of spread gets the anesthetic to where it's needed.

Hyaluronidase also assures more certain nerve block anesthetics, in general surgery.

Moreover, life or death may hinge on the injection of fluids like plasma, saline and glucose in ill and injured persons. Yet, in infants and, under certain surgical conditions, in adults too, it may be difficult or even impossible to inject into a vein. Hyaluronidase allows infusions right under the skin, assuring quick and painless absorption.

Hyaluronidase has been found to occur in disease germs—in the pneumococcus and streptococcus. Yet researchers believe these germs have the ability to spread so they can get beyond obstacles in nose and throat and thus penetrate into the body.

With this clue to how disease spreads, a group of investigators in Spain has been trying to find a chemical to counteract the enzyme. One chemical has been found—gentisic acid—which, happily, does the job and is not irritating when sprayed into the nose. Although it's too early for definite conclusions, the Spanish doctors indicate that such spraying as a protective measure against colds and influenza looks promising.

These are only a few of the rapidly multiplying uses of the amazing enzymes.

Although nobody realized it, enzymes were used thousands of years ago in alcoholic fermentation. It was only in the middle of the nineteenth century that Louis Pasteur demonstrated that fermentations are due to the presence of microorganisms. It was many years later before it was



UNIVERSITY OF WISCONSIN

Basic research is the specialty of Dr. David Green of the Enzyme Institute

realized that it wasn't the micro-organisms themselves but the enzymes they produced that did the fermentation job.

In medicine, some of the earliest work with enzymes was done in digestive difficulties. It was relatively easy for doctors to trace many to the digestive secretions and, in turn, to discover that enzymes were key chemicals in the secretions.

Beginning with the enzyme, ptyalin, in the saliva, enzymes throughout the alimentary tract function to break up foods so the body can absorb them. For many years, physicians have prescribed enzymes to compensate for natural deficiencies. Pepsin, for instance, is used widely in stomach disorders.

But it's only recently that real insight has been gained into the nature of enzymes and the myriad functions they perform. "Life," says one eminent scientist, "is just one enzyme reaction after another." That fact, with all its implications, now is becoming clear.

A major source of insight is at the University of Wisconsin where the Enzyme Institute has been established as a center for basic research.

Put a cell, whether from a lettuce leaf or human muscle, under a powerful microscope and you'll see a consistent structure. Within the wall, there's a dense concentrated nucleus and, surrounding it, a jellylike filling called the cytoplasm. Within the cytoplasm you'll discover tiny complex bodies called mitochondria. Locked up in the mitochondria are the enzymes.

At the Institute, scientists have perfected techniques for breaking down the cells, extracting enzymes from the mitochondria, and studying them in test tubes, making them do there just what they do in the body.

Every enzyme thus far studied is protein in nature. Moreover, it's now evident that enzymes work in organized teams. In the cell, one of them starts, then others in turn continue the process of turning food into simple substances the body can absorb. Other teams rebuild the simple units into tissue protein and fat. Others burn sugar.

Enzymes also generate and store the energy the body uses. Neatly, they link together atoms of phosphorus and the linkage becomes a kind of molecular storage battery. When it needs energy, the cell plugs into the linkage instead of into an electrical outlet. The two atoms of phosphorus are torn apart, the explosion releases en-

ergy, and the energy eventually is turned into a heart beat, muscle movement or brain thought.

Institute scientists now are concentrating on whether diseases can be explained by what goes on in the enzyme-full mitochondria. They've been able to show that certain drugs, long known to act in specific ways on the heart, for example, act in exactly the same fashion on the tiny cellular mitochondria. The stimulants increase activity in the mitochondria; drugs that interfere with heart activity interfere with mitochondria processes.

Therefore, as Dr. David Green of the Institute explains: "A weak heart may be a reflection of the events taking place in the mitochondria."

Here, too, in these microscopic powerhouses within every body cell, and in the key activities of enzymes locked up in them, may lie the explanation for kidney, liver and other disorders.

Other studies which seem likely to lead to pinpointing the fundamental process of life, to an understanding of disease in the raw and of more effective ways to control it, are expected to go on for generations.

Meantime, however, other scientists keep turning up new and amazingly varied enzyme wizardry.

For example, Central and South American natives long used the juice of the papaya fruit as a meat tenderizer. Its effectiveness was traced to an enzyme, papain. Commercial preparations of the colorless papain powder now can turn a cheap, tough cut of steak into a succulent surprise.

Could papain have medical value?

Doctors knew that its tenderizing secret lies in its ability to promote digestion of tough connective tissues and muscle fibers in meat. So they tried it on surface wounds to see if it might digest away dead tissue. It did—and hastened healing.

Because of its digestive powers, another enzyme, pancreatin, which comes from animal pancreas glands, has been made into an ointment and used to digest matter that interferes with healing on furuncles, carbuncles, ringworms and scars.

Each success with an enzyme stimulates other researchers to try the same and every other enzyme available on other problems.

There's the enzyme tyrosinase, extracted from the common mushroom. Research showed it to be effective against poison ivy in early

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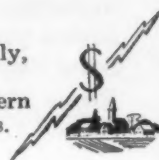
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stages. Other investigators, eager to see what else it could do, tried it on dogs and were gratified to find that it lowered the blood pressure in animals with hypertension.

Then, daily injections were given 17 people troubled with high blood pressure. In most cases their blood pressure fell considerably and symptoms were relieved.

Against cancer, enzymes also show promise.

Every year more than 20,000 American women die of cancer of the female organs. While there are tests for early detection, they're not as simple as would be desirable. At Chicago Lying-In Hospital, not long ago, researchers discovered that when cancer is present in female organs, increased quantities of an enzyme known as beta-glucuronidase are known to occur in the genital tract. The test for measuring the amount of the enzyme present is a relatively simple one and where cancer can be detected early enough, the chances of survival are increased.

Investigators at the New England Medical Center in Boston found that the same enzyme occurs in large quantities in other human cancerous tissue—in the breast, stomach and intestines, for example. If one or the other of the various fluids in the body also shows increased amounts of beta-glucuronidase when cancer is present, a new diagnostic aid may be available to save other lives.

Finding a cancer is one problem; determining whether it is malignant or benign is another. Now, after months of work, two University of California at Los Angeles scientists—Drs. Philip M. West and Jessamine Hilliard—have discovered a way to determine what's happening.

Rennin is a body enzyme that curdles milk. Chymotrypsin is another that promotes digestion of milk. When a cancer grows, the two investigators found, the activity of these two enzymes is inhibited or checked, each by a specific inhibiting chemical. But more chymotrypsin than rennin inhibitor is produced. On the other hand, when a cancer is improving, the rennin inhibitor increases and the chymotrypsin decreases.

As a result, the two UCLA doctors have announced a test that can be made in 24 hours to determine the ratio of the two inhibitors in the patient's blood serum and indicate what's going on.

Thus enzymes—and possibly even the suppression of enzyme activity—may open the way even to more effective cancer treatment.

Preliminary reports indicate that yeast, containing certain enzymes, has produced promising results in treating cancer in animals.

The distinguished German researcher and Nobel Prize winner, Dr. Otto Warburg, has been at work for years on another tack. Dr. Warburg, some years ago, found that 11 enzymes work in relays to ferment sugar in the body. Enzyme A does its job, preparing the way for enzyme B, and so on. If this chain could be broken at any point, then a tumor might cease to grow, dying of starvation for sugar. So. Dr. Warburg has been experimenting with substances that inhibit enzyme activity, hoping to find a simple and successful cancer treatment.

For industrial work, enzymes are prepared from grains, animal glands or by growing bacteria and molds in tanks and harvesting their output of the chemicals. The enzyme-producing industry has a gross annual volume estimated at \$20,000,000.

Enzymes are used in making cheese, fermenting beer and other alcoholic beverages, and in clarifying wines and fruit juices. In the textile industry, they're employed in making calico for dresses, to degum silk, and to produce a wool that won't "felt" and which has less shrinkage.

In leather production, enzymes soften hides and produce a smooth grain. In dry cleaning, when the solvents that dislodge soil, dust and even oil and grease fall down on such tough spots as eggs and gravy, enzymes are used to turn the eggs and gravy into substances that can be rinsed out with soap and water.

They have scores of other uses, ranging from producing adhesives to sizing and coating paper.

Actually, future possibilities of enzymes in both medicine and industry virtually are unlimited. As one enzyme chemist puts it:

"It's been estimated that a single plant or animal cell could contain 1,000 different enzymes. We actually know that hundreds of different sorts of enzymes exist.

"But, beyond that, each species of plant and animal may possess its own individual enzymes—so that, quite probably, there are, all told, literally millions of specific enzymes.

"Yet, the fact is that to date only about 29 enzymes have been isolated in pure condition. These are, unquestionably, the most intriguing chemicals yet discovered, and we've only begun to discover them."

Sanitation Pays Its Way

(Continued from page 63)

tory (such as the Underwriters Lab) where new products can be evaluated; training sanitation employees for industry and publishing a sanitation journal for health officials, manufacturers and operators.

Though desperately needing one, the NSF contends that we don't have a single nation-wide sanitation program. We have national programs for cancer, tuberculosis, venereal disease, polio, heart disease, stream pollution, but none for sanitation—which strives to prevent disease.

The NSF recommends a nation-wide sanitation program in cooperation with the U. S. Public Health Service, state and local departments. Health education would replace the summons approach. Meanwhile, representatives of 26 key national health organizations including the American Medical Association and American Public Health Association urge the NSF to lead the way on such a program.

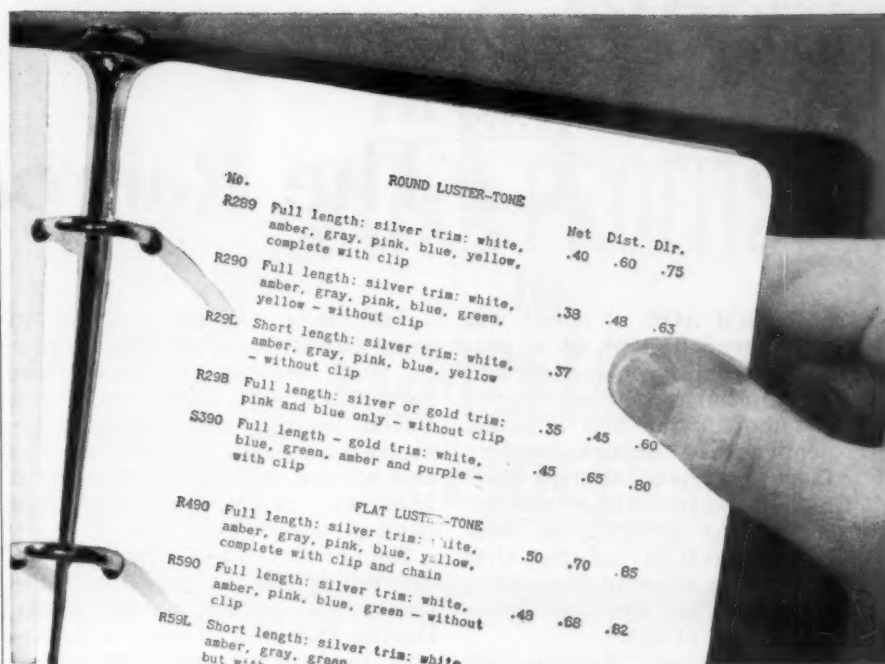
Business has helped further sanitation in the U. S. Many industries have prospered because of sanitation's advances. Industries on their sanitation toes have accepted responsibility for much of their own regulation—the dairy industry, for example. But as Snyder points out, "The finger has been unjustly pointed at certain industries even though sanitation is *everybody's* business."

Business men aren't the only NSF enthusiasts. Every public health official with whom I spoke highly lauded this "partnership of industry and public health."

They include U. S. Surgeon General Leonard A. Scheele, U. S. Public Health Service's Mark D. Hollis, the American Public Health Association's Francis B. Elder and Yale Public Health Chairman Dr. Ira V. Hiscock.

In fairness, all of the present code chaos isn't the fault of health officials. Occasionally, manufacturers of similar types of equipment haven't agreed among themselves on design standards that would provide proper sanitary safeguards. Competition for markets has kept some business men from getting together.

Today, luckily, there is a place for business men to get together with health officials. That's the National Sanitation Foundation.



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ACORNS OF INDUSTRY



The Railroad's Rail

AMERICA'S AGE of speed was whittled carefully out of a pine block in the cabin of an American packet ship during the summer of 1830. The whittler was a young engineer named Robert Stevens. The fates must have laughed when he finished the job. Ships that sail the seven seas are born on land. But, the high-T bar of iron that would turn the railroad from a toy to workhorse for the continents had been born at sea.

"Those Stevenses," the jokesters used to say in New York City "are all-fired bright save for one thing. They don't know what c-a-n't spells."

John Stevens, Robert's father, had begun to examine the potentials of land transportation via the steam locomotives that rumbled trains of coal wagons up from mines to waterfronts in central England.

Three locomotives already were operating in America when he established the Camden and Amboy Railroad in New Jersey, appointed Robert its president and chief engineer, then ordered the young man off to England to purchase a locomotive.

Locomotives weren't the only things to study during the trip, John Stevens said. Sooner or later, existing theories about railroads would have to be re-examined. The railroad had grown up, harum-scarum, from a mud rut. Indeed, it was little more than a rut turned upside down. The horse-drawn wagons hauling coal from English mines to canals dug deep ruts in the roads.

Wood boards were laid as a cover over the ruts. Wagoners began to put iron tires on their vehicles; the boards splintered and broke. So, about 1750, iron plates were laid atop the wood.

In 1767, the Coalbrookdale Ironworks created an L-shaped iron plate that held wagon wheels in line on sharp curves. Flanged iron wagon wheels appeared about 1790, riding on rails composed of wooden boards set on edge and topped by iron strips. In 1814, George Stephenson, an English engineer, perfected the steam locomotive.

The iron rail-top contracted more rapidly than the wooden base in cold weather. It tore loose, sometimes, and curled up like a watch spring, overturning locomotives and cars. The rail, Stevens and his son decided at shipside in 1830, was of greater importance than the locomotive.

Robert visited the ship's carpenter, purchased an armful of pine blocks and retired to his cabin. During the long voyage to Liverpool, he designed and whittled out the model for an all-iron rail. It was shaped like a capital "T," three and one half inches wide at the top. Spikes with oblong heads could hold this type of rail firmly to stone blocks, he decided. This

feet in length and weighed 216 pounds (36 pounds to the yard).

The Sing Sing stone shipments failed to keep pace with the track-laying gangs. Robert Stevens ordered the substitution of wooden beams as rail supports. Subsequent test runs over the Camden and Amboy line proved that the wooden ties gave a more comfortable ride than the stone blocks.

John Stevens died in 1838, six years after the C & A railroad opened for business. He had great faith in his son's accomplishment and prophesied that one day the high-T rail would carry trains from the Atlantic to the Pacific. Robert wasn't so sure and, good railroader that he was, began to



would give trains a safe and practically indestructible right of way. Speeds might even increase to the dizzying pace of 25 or 30 miles per hour.

Pine-block models of both rail and spike packed away in his luggage, Robert Stevens took coach from Liverpool for Wales where friends of his father operated an ironworks. There, casting experiments began.

Stevens was back in New Jersey, completing negotiations with Sing Sing prison authorities for thousands of stone blocks to be used as rail supports, when the first shipment of T rails reached Camden in May, 1831. Each rail averaged 18

experiment with other rail shapes. In 1845, he had decided on a pear-headed rail that clamped to the ties by wooden braces.

By that time, American railroads were in a desperate plight. Locomotives had increased from three to 20 tons in weight. A loaded freight car carried five to ten tons of goods.

Cast iron rails couldn't stand the strain, even at weights of 100 pounds to the yard. Train speeds were ordered back to ten miles an hour, solely because of disastrous rail breaks.

The steelmaking process discovered in 1856 by the English chemist, Henry Bessemer, finally solved

the breakage problem. The first steel railroad rails were delivered in America from England in 1863 at \$250 per ton—seven years after Robert Stevens' death. Meanwhile the Pennsylvania railroad, a step-child of the tiny C & A line, had decided that his high-T rail was the most practicable and most serviceable of all. Its use as standard equipment was ordered on all lines.

On May 24, 1865, the first American-made high-T rail was rolled in Chicago from ingots produced at Capt. E. B. Ward's "Experimental Steel Works" in Wyandotte, Mich. It weighed 57 pounds to the yard. Within a decade prices were down to \$45 a ton.

In the years since, hundreds of new designs of Stevens' high-T have been created to meet the railroad's special needs in switches, spurs, crossovers and other strategic spots. Thanks to metallurgical studies by both steelmakers and railroads, the average service life of a steel rail has increased to 15 years, even though streamliner speeds sometimes exceed 100 miles per hour and diesel-powered 150-car freight trains are commonplace.

Today's high-T, on main line railroads, weighs 130 pounds to the yard. In all the U.S.A. there are 398,000 miles of it, carrying 1,000,000,000 passengers and 2,300,000,000 tons of freight each year. This is the offspring of the pine block whittled at sea more than 100 years ago by John Stevens' boy, Robert—one of the family that didn't know what "c-a-n't" spelled.—ROBERT WEST HOWARD



"It's some mix-up in the social security records in Washington. They think he's 68"



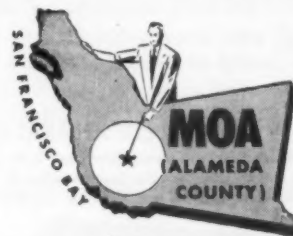
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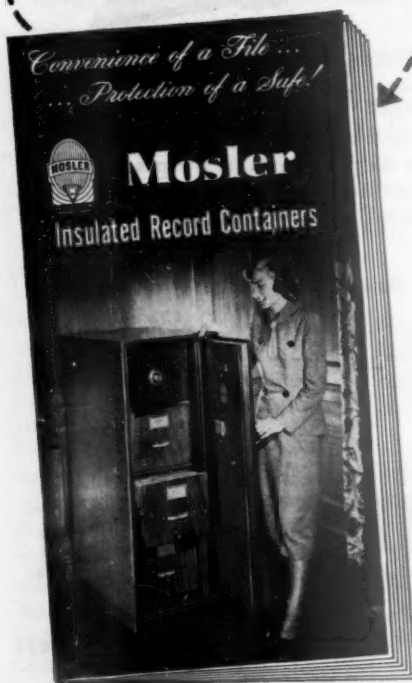
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Can the Rails Do It Again?

(Continued from page 45)

stock, Vt., and all points north, east, and to some degree west. These 100 cars must be reshuffled into new trains which will be picked up by Penn or B. & O. engines to carry them either to their destination or to another interchange yard. Freight trains of varying lengths bring 3,000 cars a day into Potomac Yard and they are all gone in as little as two hours and rarely more than 16. Potomac Yard classifies cars going north and south. In wartime it has handled as many as 10,172 cars in a 24-hour period and during January it ices, humps and dispatches 600 cars a day filled with Florida perishables.

The humping operation is the heart of the Yard, which is five and a half miles long and has 110 miles of track. There are two humps, the northbound with 48 tracks and the southbound with 29. The Yard is shaped like a football with two tracks at each end which swell into 77 tracks, plus sidings, and then dwindle again into two tracks. This football analogy does not bear too close scrutiny in an aerial map of the Yard, but it is completely accurate in an operational blueprint. In other words, two tracks bulge into 77 and subside again into two.

In the old days when railroads had to classify cars for relay to points of destination, they hauled and tugged with yard locomotives. Today, 14 diesels do the job because they have the full aid of an old stand-by called gravity. A diesel engine pushes the 100-car train delivered by Southern to the tip of a hump. Here the cars are cut loose and drift down to whichever of 48 tracks the humpmaster chooses.

As each car reaches the top of the hump, a cutter checks a list he holds. The list tells him that Wabash boxcar No. 72643 is destined for the Pennsylvania's great yard in Harrisburg. The Potomac Yard man is assembling a train for Harrisburg on northbound Track 41. So he scribbles 41 on the boxcar with chalk. The car is beginning to respond to gravity's pull and is moving slowly so the man chalks the "1" before he writes the "4." He is writing backwards although the end result is nevertheless a "4" and a "1" in the proper sequence.

The car quickly picks up speed but a man high in a tower checks this speed with a push button

which sets in operation a retarder. This is a pneumatic pressure device which slows the car down by squeezing its wheels against the rails. This man high in the tower is a skilled worker. He is paid \$13.71 a day. He knows the weight of every car he retards and he must apply proper pressure. Too little pressure on a heavy car lets it slam on through; too much pressure on a light car shakes it up. In any case too much pressure may stop a car cold and that slows up the operation. In normal operation an 80-car train will be humped in 25 minutes.

Now the car continues floating downward and another retarder operator sets switches so the car will slide to Track 41, its destination. In the old days every car humped carried a brakeman who had to bring it to a stop manually. The automatic retarder has eliminated the brakeman in 85 out of every 100 instances. In the case of fragile goods, the switch list is marked with an "R," for "rider," and a brakeman jumps aboard to make sure the car is not jostled as it bangs into the boxcars that have preceded it to a track. This, incidentally, is the explanation of the "Do Not Hump" sign we have all seen on boxcars. It indicates that the contents of the car are fragile or dangerous and therefore require special attention during the distribution process. In handling explosives and other dangerous articles, the car is moved into position with a switch engine.

As soon as Southern's 100-car train has been distributed, a Richmond, Fredericksburg and Potomac train, with connections from the Atlantic Coast Line or the Seaboard Air Line Railroad, is ready for humping. It will have several cars that are bound for Harrisburg so they will be shunted onto Track 41. Teletypes inform Potomac Yard of the ultimate destination of each car in a freight train several hours before its arrival. Certain tracks are normally used for cars going to particular destinations or deliveries to other railroads. These cars may arrive in six or seven separate trains. As each train is humped, the cars bound for a factory east of Harrisburg, for example, slide into Track 27 where they are coupled. When the Pennsylvania engine appears to haul away the Harrisburg train on Track 41, the ten cars on

Track 27 are coupled to the rear of the Harrisburg group. These ten are cut off at their destination and the remainder go on to the Pennsylvania capital.

The teletyped manifest tells Potomac Yard what is in each car so, in the frequent case of perishables, it is hauled to the icing platforms. Sometimes a car arrives in an obvious state of spoilage. It will be cut out and Potomac Yard will telephone its point of origin for instructions.

Occasionally a car is lost and arrives at the Yard without forwarding instructions. These instructions are obtained by telephoning the superintendent of freight of the line which delivered the cars.

Cars are inspected both by men on the ground and by a man who sits in a glass-topped booth under the track at the top of the hump. Any repairs they order are made in the Yard, regardless of car ownership. Repairs due to ordinary wear and tear are charged to the owner.

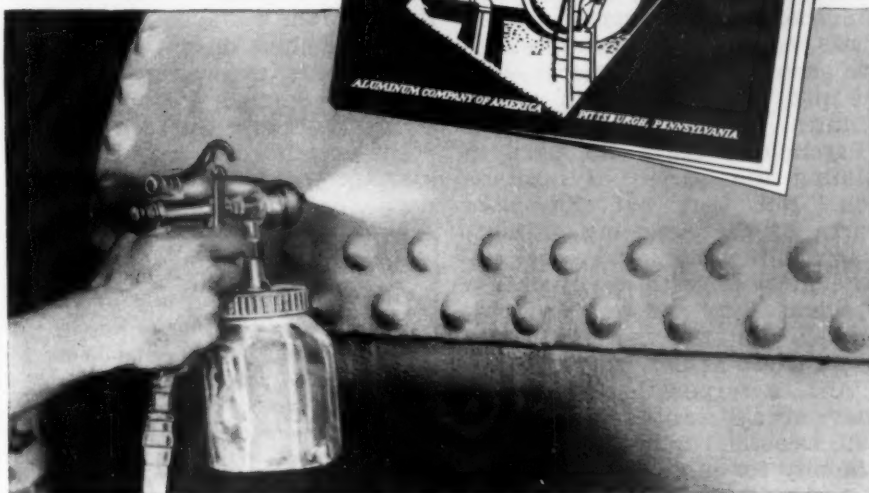
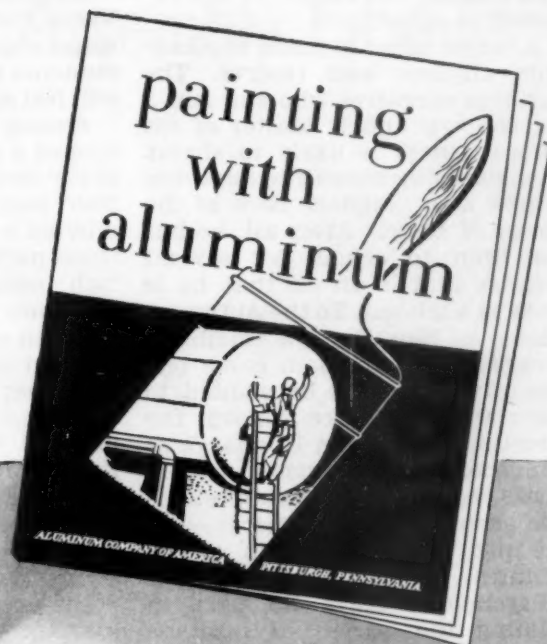
Hand signals are fast disappearing from Potomac Yard. There is two-way radio contact among yardmasters, other supervisors and engine and train crews. The retarder towermen can also talk to the engineers or send out instructions to brakemen. This all cuts down the possibility of error and makes it possible to do more work with fewer men. You no longer have to send a messenger boy four miles to tell something to a conductor.

This entire business of some personnel of railroad "A" working diligently to protect the properties and revenues of railroad "B" while other employees of Railroad "A" try to lure business from railroad "B" is a unique example of intelligence in industry. It can be explained, to a large degree, by necessity but there is a strong undercurrent of the recognition by railroads that "public service" is something more than a mere phrase to be mouthed at congressional hearings.

And there is the romantic, but inescapable fact that railroading is the only way of life for railroaders. They want to make a dollar, even as you or I, but they consider their business as an art, not a business. "Casey Jones" is a doleful and melodramatic legend but, oddly, it is exactly representative of how railroaders feel about such things. Get the stuff where it is going! At a profit, if possible, but get it there whether it be war material destined for overseas, or goods consigned to the public consumer.

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Où Est the Pen of Votre Grandpère?

(Continued from page 36)

more than four people. From the first lessons the members are required to participate.

A major effort is made to eliminate shyness and reserve. The business executive who can run a big concern and is master of his balance sheet is likely to shrink from exposing himself to anything so new as a language born at the Tower of Babel. After all, he has not been to school for several decades and is afraid that he is rusty as a scholar. To the Automem School in New York, a small but progressive institution, came one executive who said he wanted to learn Italian. Lance Cunard, the director, placed him in charge of a motherly Italian woman—when it was clear that he was apprehensive about the whole process—and she put him at ease in a few minutes.

Psychology plays its part in calming the nerves of business men. Not long ago Francisco Ibarra of the Academy of Languages in New York had a preliminary interview with a corporation president. The man was obviously worried. But the ebullient Señor Ibarra gazed at him, said quickly: "Ah! A corporation president! I have always wanted to meet one. Well, I couldn't hold a job in your company for more than a couple of weeks, I suppose. But I know I can teach you Spanish without any trouble."

The troubled student is assured that he is, in fact, already a linguist. He speaks English, doesn't he? And anybody who has learned English can take on any foreign language, even Russian or Chinese. For what can be crazier than English? It has virtually no rules. The plural of "house" is "houses." The plural of "mouse" is "mice." The letter "a" is pronounced one way in "father" and a second way in "any." The vowel is still different in "after." "Ale" and "ail" sound precisely alike yet they have no connection—at least, everybody hopes so.

Under such soothing reassurances the student in today's language school gains confidence and in a brief time is chatting volubly in the language of his choice. We have visited a dozen or so of the schools and can testify that the system really works. For instance, Señor Ibarra believes in informality. His pupils smoke and stroll

around the classroom as they please.

He has devised tiny models of living rooms with tables, chairs, desks and sofas. In short order the students learn their names and so will feel at ease in houses abroad.

Among other classes, we attended a group beginning German at the New York Berlitz school. The four students had been working only six weeks yet their pronunciations, particularly with the difficult "ich" sound, were quite good. Instruction was conducted wholly in German except when one girl forgot and used an English phrase.

"Lieber Gott!" exclaimed the teacher in mock dismay, and demanded to know what strange language she was speaking.

The teachers do not hesitate to be dramatic, even corny at times. A young Spanish instructor was trying to get over the verb "smell." So he pretended to have a rose in his hand and sniffed it ecstatically.

"Only when the great masses of the people of the world understand the basis of our prosperity and freedom and understand and accept the fundamental truths that we believe will we have a secure foundation for peace and prosperity in the world."

—Charles E. Wilson

To convey that "gas smells bad" he made a horrible face. He then went on to "taste" and puckered his lips for "the lemon is sour."

These antics might outrage university linguists who have been known to call such institutions "speak-easy language schools." They are effective, though. We descended in the elevator run by an attractive girl operator at one school. When we reached the street floor we heard her exchange a few phrases in French with the starter. Both were taking lessons with the hope of getting better jobs. A student at another school had been the letter carrier who delivered the mail. He acquired enough Spanish to win a promotion.

The ambitious mailman probably had to work somewhat harder than the other students because his schooling was negligible. Education and intelligence do count, of course. Anybody who has

studied Latin and remembers some of it will have an easier time with French and Italian. Yet a low I.Q. does not necessarily mean inability to learn a language. Neither does the lack of a formal education.

Between 1938 and 1941 the Berlitz system dispatched a series of teachers to live in Venezuela and teach Spanish to the engineers and other technicians working in the oil fields there. One reason for the program was to build good will between Venezuela and the United States and thereby prevent possible expropriation of the oil properties as had happened in Mexico. The thing that surprised the teachers, though, was to find their students speaking better Spanish, in some cases, than their native English.

Age makes little difference in mastering a language. Every school we visited stressed the point that the man or woman along in years can become just as expert as the younger person. Señor Ibarra once was asked whether it was possible for a person of 50 or older to learn a foreign tongue.

"Certainly," he said. "Frequently a person of that age learns faster than a younger person. The governing factor is not age but mental alertness."

On the other hand, we view with a degree of skepticism the claim of some modern language school heads that anybody can become a linguist. Some people can't be taught to swim or to ride a bicycle. Nor are we certain that verbs and other aspects of grammar can be ignored quite so blandly as an occasional teacher insists. Cunard of the Automem School in New York believes that a thorough grounding in the mechanism of any language is essential and that the beginner must be taught the fundamentals in English. Cunard thinks that a banker, learning French, should be told about the financial structure of France and its business economy; he would give an art student, taking Italian, some background in the culture of the country.

In some schools versatility is important for the teachers. At the Berlitz branches all are educated natives of their countries. Some have musical or other artistic backgrounds, some have had training in law. Thus they are able to meet special needs of students. When a Los Angeles law graduate won a scholarship to the Sorbonne, Berlitz found him a teacher who had been an attorney in France.

The Berlitz people get strange requests. One was to coach the referee of a boxing contest between

a Frenchman and an American. He spoke no French. He had to know the words for such pugilistic terms as "go in there fighting" and "break clean." Somehow they poured it into his head and the fight went off without incident.

An insistence on grammar, where it is maintained, causes the loss of an occasional customer. A society woman in an eastern city enrolled in a Spanish class. At the second lesson a mimeographed sheet was given her with the present tense of "ser"—to be—on it.

"What's this?" she asked haughtily, as though presented with a dead cat.

"A verb," said the teacher. "Just one little verb."

"A verb?" she repeated, and pulled on her mink coat preparing to depart. "I thought I didn't have to study any grammar."

Possibly, she should have used the method of the Linguaphone Institute which boasts that it teaches "language without tears." It does, too. Through phonograph recordings you can master German at home with a stein of beer at your elbow, or Italian while you sip a glass of chianti. The student can listen to distinguished linguists, specialists in 29 languages. The sets of recordings cost \$50 and are shipped throughout the world.

Max Sherover, president of the company, likes to tell about a company executive who was ordered to take over the branch in Havana because of the sudden death of the manager there. He appealed to the Linguaphone Institute for help. Sherover told him that if he devoted one hour a day for 60 days to his lessons he would be adequately prepared. The executive did the work and took on the job successfully.

Not all of the blocks to communication exist, however, among those who speak different tongues. Barriers can arise within the same language. We remember an occasion in London when the waiter at breakfast gave us a play-by-play report of the cricket match of the day before. He might as well have been speaking Choctaw. And then there was the time when a member of this team needed a pair of garters and dropped in at a British haberdashery. The clerk looked quite blank at first. Then light dawned.

"Oh, you mean you want sock suspenders!" he said.

In the interest of Anglo-American amity somebody should set up courses in teaching English to Americans and American to the English.

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If Robots Run the Works

(Continued from page 33)

of mathematical equations. Recorded on magnetic tape these can be fed through the factory's master control mechanism as instructions to the assembly line machinery. By means of "feedback" or two-way communication between master control and the various machines, the original orders can be modified to meet any contingency that might arise anywhere in the plant.

For all practical purposes the human responsibility for efficient production in any particular plant would lie with the "tapers," a small group of scientists who would schedule the manufacturing process on tape. Once this was done the tape could be played over and over each 24 hours.

How much would the switch-over cost?

The biggest single item would be the master control apparatus built along the lines of today's supercalculators. "Project Typhoon," the machine mentioned earlier that was built for the Navy, cost \$1,400,000. Most such giants cost around \$1,000,000. But machines built to operate a factory needn't be nearly as complex as those now at work on higher mathematics. While the assembly would have to vary somewhat according to the type of factory, the parts themselves could be standardized and mass-produced. Wiener estimates that even in quantities as low as tens and twenties the price range could be brought down to the tens of thousands of dollars.

In addition to the master control panel, most of the machinery in a plant would have to be rebuilt or equipped with control devices. Today every job in industry represents a capital investment of about \$9,000. The additional control apparatus required to replace the man on the job would probably run a good deal higher. But maintenance costs would be low and the savings on wages (not to speak of salaries) should quickly repay the original investment.

Control machinery plays no favorites between the skilled and unskilled or between the man in overalls and the man in a white collar. It reaches right up to the top.

Much skilled labor consists of turning dials and switches according to data read off gauges and meters—no trick at all for a machine. In making steel, one of the most important jobs is deciding

whether a batch is ready to be poured. A photoelectric gadget can make a better judgment than the human eye and give its own orders to pour.

In the white collar field they can also handle their own cost accounting, simply by feeding their data directly into a central computer. Nonproductive paper work—bookkeeping, recording, filing—has reached overwhelming proportions in business and government. As against an increase of two and a half times for productive workers in the past half century, the number of nonproductive workers has increased sevenfold. The new computers can make confetti of nonproductive payrolls.

One portent is apparent in Remington-Rand's "UNIVAC," the first commercial model of a large-scale electronic computer. Handling 1,500 to 2,000 calculations a second, it spells out results either in numbers or in the standard characters of a typewriter keyboard, computes a payroll for 10,000 employees in 40 minutes, and by recording its data on magnetic tape simply eliminates the bulk of records used in an organization.

The competitive advantages of the first robot factories would be terrific, and for a short time reconversion might produce a boom—followed by a bust that would blow us sky high. This would be particularly true after a victorious war when we'd have the know-how and a tremendous backlog of manufactured parts. "If these were made available without restriction to entrepreneurs," says Wiener, "some of them would certainly try to make a quickie fortune and get out from under before the whole industrial structure collapsed."

On the whole the outlook for private enterprise would not appear too bright. When you make goods without the necessity of providing purchasing power in the form of wages, you're likely to wind up with only one customer—the Government. The difference between running an industry and being its only possible customer is certainly slight.

Without employees, management would have nobody to plan for or inspire and hence little to contribute to the success of one enterprise as against competing enterprises—even if there were anything to be gained by competition between robots. Wiener visualizes

the evolution of today's high-powered executives and labor leaders into "industrial statesmen" whose job would be to help society readjust to the new techniques.

This won't be easy. In the first industrial revolution, new machines eventually created many more jobs than they took away. The automobile industry, for instance, which threw 100,000 men out of work in the livery business, today provides 3,000,000 jobs at far better pay. But when workers lose jobs to the new control mechanisms, they may lose them for keeps.

Some highly skilled workers will be needed in the manufacture of the new machines themselves. Others will be absorbed in new service industries and small enterprises which will doubtless spring up to compete with the robots on the basis of individual craftsmanship. But the great bulk of mass-production workers will find nothing to take the place of the routine jobs taken over by the machines.

"It is a degradation and a waste to assign a human being a purely repetitive task in a factory which demands less than a millionth of his brain capacity," writes Wiener in his book "The Human Use of Human Beings." Ideally any job that can be done better by a machine is unworthy to be done by a human being. But a job is a job.

How are the millions thrown out of work going to earn a living? The answer is that they probably aren't. Drastically reduced working hours, early retirement, more time spent on education and cultural activities, and more government intervention than we've ever known appear almost inevitable.

If we aren't destroyed in the meantime, the new industrial revolution holds the promise of a technological utopia in which mechanical slaves would do most of the work.

But we can't create mechanical slaves and then ask human beings to compete with them. "If we do, it'll create an unemployment situation beside which the depression of the '30's would seem a pleasant joke." We can take warning, Wiener adds, from the example of Rome which forced her citizens to compete with slaves and created a proletariat which undermined the empire.

Logic is like whisky, all right, and in the form of machines that think, science has poured us the most potent slug of the stuff in mankind's long history. Will it kill or cure us? No mechanical brain is going to give us the answer to that one.



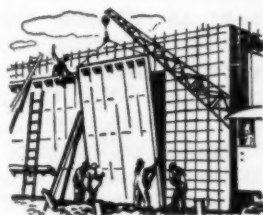
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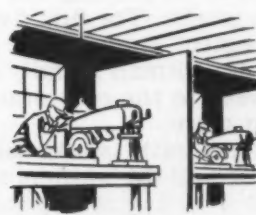
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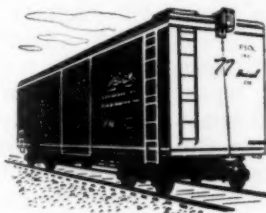
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There's a moral to this tale of the

Tailor Who Nearly Lost His Shirt

By BEN FUNK



IN THESE troubled times there's a hopeful and refreshing twang to the story of Harry Bitman, a Denver tailor who valued his personal honor above all his worldly possessions. He risked financial ruin rather than go back on his word, and he was richly rewarded by a public that still likes to back up an honest man.

Bitman, owner of a modest tailor shop with a capacity output of seven suits a day, decided in the fall of 1948 to sponsor a football contest as an advertising stunt. He intended to give a free suit each week to the person who came the nearest to picking the winners of ten games. The first five weeks, as expected, there were no perfect cards. Bitman happily gave a suit a week to the contestant with the best score.

The sixth week, nine people named all the winners and Bitman had a feeling of impending disaster. He called up the sports editor of the *Rocky Mountain News*. "Don't worry," he was told, "that couldn't happen again in a hundred years."

Then came Oct. 30, one of those daffy days, rare in history, when football form prevailed from coast to coast. The top 20 teams in the Associated Press national ranking all won.

When the results of "black Saturday" were in, the bookies wept,

and Bitman wept with them. For there was one great upset that day, and it didn't happen to a football team. It happened to the little tailor. In one of the most amazing finishes in the history of football contests, 430 people hit ten winners on the nose, sticking Bitman for \$27,950 worth of suits.

It was a blow with enough power behind it to send almost any small business man spinning into bankruptcy. Hastily, Bitman totaled up the damage and compared it with his financial resources. While the retail value of the suits would be \$27,950, his loss at the wholesale level would amount to only around \$20,000. But still it was one of the biggest one-shot jackpots in the history of advertising contests.

For three sleepless nights, Bitman tried to figure out a way to make good without going down himself. An attorney advised him not to pay off.

"You've got a loophole," the legal man said. "There isn't a court in the land that wouldn't hold that the 'intent' was to give a suit a week. You're just a little guy. You'd be a sucker to try to handle that kind of a payoff."

But Bitman shook his head. "I'll not welsh on all those people," he declared. "It may wreck my business—probably will—but I promised them suits and they'll get them if I can possibly make them."

"All right," the attorney argued, "but look here. The rules don't say a thing about the value of the suits. Why not buy up a bunch of cheapies? You could get all you wanted for ten bucks apiece and get out easily that way."

"No," Bitman replied, "I'd feel cheaper than the suits if I did that. My intention was to pay off with \$65 suits, and that's the way it's going to be. I've spent years building up my little business, and I'm not going to let those people down."

The little tailor went home and talked it over with his wife and two teen-aged children. "There isn't going to be any question about it if I'll pay," he told them. "It's just whether or not I can pay. I'll need plenty of moral support."

Two days later, Bitman called in the winners, gave them coffee and doughnuts, and made a speech.

"I want to assure you all," he said, "that if it's in my power, you'll get your suits. You can look around my shop here and see that it wouldn't be possible to pay you all off at once. We can make only seven suits a day. These prizes alone would tie up the shop for two months, and I'd go broke in the meantime. I've got to keep on doing business to keep my head above water."

Bitman brought out a goldfish bowl with 430 numbers stuffed into capsules. "If you'll each draw a number," he said, "I'll make your suits in that order just as fast as possible. It's going to take time—a lot of time—and I beg you to be patient."

The contestants gave Bitman a rousing cheer. Then, one by one, they stepped up and took their numbers. A Denver radio station broadcast the ceremonies and the University of Denver sent in a band to provide music.

"This is the band that plays at the University of Denver football games," the announcer quipped, "and Harry Bitman is just crazy about football." Bitman managed



a wan smile. He grinned again when the announcer suggested that he keep the capsules from the fishbowl to carry his aspirins in.

At first, the strain of turning out free suits threatened to burst Bitman's financial structure at the seams, but he made them in regular order. In one week he scored a first down when he measured Contestant No. 10 for a double-breasted tweed.

Meanwhile, the story of Bitman's heroic undertaking traveled across the nation and around the world. In an Associated Press poll, the outcome of his contest was voted the American sports oddity of the year. Thousands of letters poured into his shop.

But the people didn't stop with good wishes. Many went out of their way to come into the shop and shake Bitman's hand. "I just wanted to meet you," one man said. "I don't need a suit, but by golly I'd be honored if you'd make one for me." Friends and relatives of the people who had won suits began drifting in. Before long, business began to get out of hand.

In Baltimore, a tailor read about Bitman, quit his job and went to Denver. "You're a good man and a square shooter," he told the little tailor. "I'd like to work for you." Bitman hired him and, as the business continued to expand, he put on more tailors.

Then came the summer season and the annual flood of tourists to the Rocky Mountains. Scores of these who had read about Bitman in the newspapers months before came in to meet him.

Bitman, amazed at his good fortune, opened another shop in Denver, then two more in suburban Lakewood and Aurora. Before long, he was turning out so many suits he saw that when the last of the free suits were gone his business would be in a sounder condition than it was when he started the big payoff.

Ten months after "black Saturday," Bitman measured Contestant No. 430 for a blue herringbone and his debt to the public was paid.

"It certainly builds up my faith in human nature when I think how things turned out for me," he said not long ago. "The American people are wonderful sportsmen. I guess if you do good, you don't have to wait for Heaven to get your reward."

"Two years ago I thought I was finished. Now I'm a big business man. I'm thankful for that, but the great experience of meeting all those fine people has been worth more to me than the business."

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COVERAGE. When Chrysler announces a mighty new engine, it's only natural they choose Outdoor... a mighty medium! For nearly all who go outdoors, see Outdoor Advertising. And they see it not once, but over and over again. When you want to reach more

people, more often, for less money... use GOA Sales-Power. General Outdoor Advertising Co., 515 Loomis St., Chicago 7, Ill.

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Memo to merchants...



A MODERN KAWNEER STORE FRONT IS A SHOPPER STOPPER!

Naturally everyone prefers to shop in a pleasant modern store—rather than a dingy, unattractive one. That's why an eye-pleasing Kawneer Front is a magnet for shoppers. It assures people of a friendly, up-to-date atmosphere inside.

Now is the time to start modernization plans—so write today for the new Kawneer book, "How to Modernize Your Store Front." The Kawneer Company, Dept. NB-69, 1105 N. Front St., Niles, Mich.

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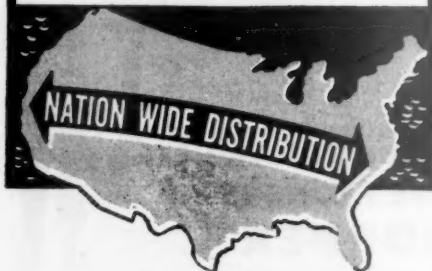
Kellogg SELECT-O-PHONE, the inside private communication system, keeps you in constant, two or three-way contact with department heads, either individually or collectively—helps get things done, speeds production and flow of materials.

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Money in Merry-Go-Rounds

YOU WOULD have a tough time convincing Arthur Rea that the time of opportunity has passed, or that starting a new business requires the backing of a million-dollar corporation.

Rea was the Camden, N. J., distributor for a line of ice cream pops. The business wasn't flourishing the way he thought it should. What he needed, he decided, was a premium that would entice kids to buy more ice cream pops, and buy them from his route men.

Looking through the premium catalogs he found the usual badges, guns and gimmicks, but none of them sparked any enthusiasm for him. He was watching the kids at a park one day, hoping for inspiration, when something struck him—as soon as the kids got through the gate they headed for the merry-go-round.

A merry-go-round, he felt, was something kids always go for. Now, if they could "buy" a ride with a couple of coupons obtained by buying his ice cream pops—? The conclusion was a portable merry-go-round, which sold rides only for coupons obtained by buying Rea's product.

The merry-go-round turned out to be everything Rea hoped it would. It not only increased his ice cream business by 20 per cent plus, but put him into a new field.

The original idea was simple

enough, except that when he went to buy a merry-go-round he found there weren't any. He wound up by designing an engineless, crankless merry-go-round so hung on bearings that a slight push will keep it turning until it is braked. He had the aluminum horses cast to his own design and specifications, mounted the merry-go-round on a 1½-ton truck.

By the end of his first week he had a steady stream of calls from mothers asking if he'd please bring the merry-go-round to their neighborhoods more than once a week.

About the time he came to the decision to build a second merry-go-round, he was getting calls from local bakers, bottlers, shoe stores and the like—would he rent them his merry-go-round?

That's how it came about that Arthur Rea, who merely wanted to build up his ice cream business, found himself in a new field with 30 merry-go-rounds sold or rented at the end of about two years. An associate tried the New Orleans market and found he could rent or sell them about as fast as he could turn them out. Queries are coming in from all over the country, and only restrictions of the defense economy are likely to prevent Rea's new company from growing to national proportions.

—WILFRED WEISS

Rockefeller Center: Host to World

(Continued from page 53)

girdles and lingerie, mink coats. Everything that can be identified is returned promptly by mail or plane. Once a Miami woman lost a diamond and pearl pin. The Center flew it back to her.

One day a marine was idling around the information desk in the RCA building. After a half-hour or so, he stepped up to the girl at the desk and confessed: "I'm waiting for a blonde who works in an advertising agency. We were supposed to meet here. What to do about that? The Center keeps a list of the more than 30,000 people employed by their tenants. But since the young man didn't know his girl's last name—and 49 advertising agencies would have to be canvassed—another way was found to cope with the problem.

The information girl, remembering that the two RCA buildings often are confused, phoned her associate in a building a block away. Her hunch was right. There a girl was waiting for the marine.

A crew of men and women cleaners and porters are required to keep the Center in order. Huge vacuum cleaners, washing machines and all kinds of paraphernalia work over the millions of feet of floor space and walls, running from slow, careful, painstaking operations where needed, to 10,000 square feet an hour. But all waste paper, carefully tagged by floor and number is kept in the warehouse for 48 hours before it goes into pulp vats. In that way, watches, precious stones, legal papers, dropped or lost, have been recovered. "This kind of service," says Borella, "pays off in warm tenant-landlord relations."

Specialization is carried to what may seem like ridiculous lengths. For example, there are workers who do nothing but scrape and melt chewing gum from office floors, corridors and sidewalks. Another squad of eight men does nothing but pick up cigarette butts.

While the Center's aim is to keep things simple, Borella and his associates constantly are modernizing or replacing sections of this structure or that operation.

Perhaps it's the constant application of doing things the simple way that makes Rockefeller Center something more than just a group of big office buildings—something more than a showplace—the giant heart of New York itself.



THERE'S SOMETHING FOR YOU

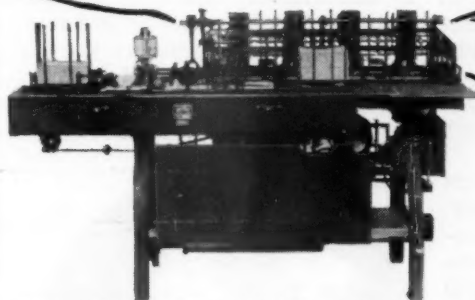
AT THE 4TH

**CANADIAN INTERNATIONAL
TRADE FAIR**

TORONTO MAY 28 - JUNE 8, 1951

DEDICATED TO THE PROMOTION OF INTERNATIONAL TRADE BY
THE GOVERNMENT OF CANADA

**PRESS THIS BUTTON
CUT MAIL COSTS BY 5**



Example: A mailing of 25,000 consisting of six enclosures inserted in a No. 10 or No. 6 3/4 envelope, sealed, postage indicia printed, counted and stacked ready for mailing—the old way takes about 25 hours and 4 to 5 people handle the job. Now the mailing can be done in about five hours with the INSERTING AND MAILING MACHINE by simply pressing a button! The Inserting & Mailing Machine is automatic and it can not make an undetected error without stopping and signalling the operator right where the tell-tale trouble lies.

The nation's top department stores, insurance companies, banks, publishers, utilities, etc., mail their bills, circulars, checks and promotion literature at savings that pay for the machine in no time. Write for details.

**INSERTING & MAILING
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PHILLIPSBURG, NEW JERSEY

GATHERS ENCLOSURES
INSERTS
INTO ENVELOPE
SEALS ENVELOPE
PRINTS
POSTAGE INDICIA
COUNTS
STACKS

INSERTING & MAILING MACHINE CO. DEPT. N
PHILLIPSBURG, NEW JERSEY

Show us how the Inserting & Mailing Machine will help solve our mailing problems economically.

INDIVIDUAL _____
FIRM _____
ADDRESS _____
CITY _____ STATE _____

When 1951 is Over

(Continued from page 30)

read the score and said things about it that couldn't be repeated in family circles.

Nightclubs, ticket speculators and eateries with French accents, which in '50 had gone from bad to television, hoped to get a new lease on supersonic tax money. Their fondest hopes were rudely dashed.

They came to realize eventually that '51 wasn't going to be played according to the war years' script. Headwaiters who had bought the suits they formerly rented regretted their undue haste.

Business, of course, came under increasingly tight controls. In an effort to manage the economy, and combat inflation, the National Production Authority put more and more materials on a strict allocation basis in civilian manufacturing industries.

Realizing that allocations alone wouldn't attain its objectives, NPA designated the end uses that could be made of allocated materials. The move was assailed as government direction of business but the somber mood of the times wasn't

conducive to arousing much sympathy for hog-tied firms.

End-use designations led directly to the manufacture of "emergency models," which served to recall the simplification and standardization of civilian products in the war that paused in '45. The firms hardest hit by this expression of austerity were those making nationally advertised, branded goods.

If these manufacturers abandoned their trade-marked lines, they junked good will that represented millions of dollars.

If they degraded their products, they sacrificed consumer confidence and faith. Fortunately, a compromise was effected. By agreeing to hold price lines on products fabricated of allocated materials, they were permitted to keep their brand names alive.

Because degrading of merchandise was part and parcel of price control, nationally known brands were as avidly sought by stores as by consumers.

Both figured rightly that the last article to be debased would be the

one that carried a name of real asset value.

It was a great year for climbing on the brand wagon. It was not so happy a year for products of unfamiliar or unknown origin.

Home furnishings sales prospered beyond the expectations of most merchants. They had believed that the drastic cutback in new housing construction would finish the job that Regulation W had begun.

But, before the cutback could get well started, the Government put through a multibillion dollar housing program to provide shelter for defense work areas. Before the program had passed the halfway mark, defense workers seemed to include anyone gainfully employed. In addition the uncertainties and suspense of the times boomed marriages to create "a record formation of new households."

Although noncommercial construction failed to reach the high-water mark of '50, nobody was chagrined. Even without restrictions of any kind it just wasn't in the cards to repeat the previous record year. The question still unanswered is: Will defense plant housing developments become the ghost cities of tomorrow?

Small business men were not without their woes in '51. Suspecting they would be last on the allocation pole, they agitated loudly and to some avail. But allocations were bound to punish most severely the manufacturer who didn't have a defense contract to fall back upon.

Proprietors of small business, too, felt more keenly the lash of the excess profits tax, and when they appealed to the Government for relief they got sympathy instead. Where resources were lacking, ingenuity was called into play and most of those who didn't prosper managed to survive.

By tightening up on business credit, where it was not employed in defense production financing, the Federal Reserve Board hurled another brickbat at small business, and it successfully opposed efforts to liberalize its regulations and ease the little fellow's plight.

Imports increased steadily in '51 and reached the highest totals attained in more than ten years. Before the year was out, the Government was the country's biggest single importer, but its imports almost exclusively comprised strategic commodities.

Imports of manufactures tended to swell civilian supply and in some lines applied checks on inflation-

Red Cross Campaign

THE AMERICAN NATIONAL Red Cross in its annual campaign this month is fostering two purposes as expressed in its slogans: "Mobilize for Defense" and "Mobilize for Mercy."

Chairman of the campaign is Brig. Gen. David Sarnoff, chairman of the Radio Corporation of America. The campaign seeks to raise \$85,000,000 which, with the addition of the last of the wartime oversubscriptions that have been held in reserve, will meet the estimated cost of the Red Cross program for 1951-52. The cost is budgeted at \$94,800,000.

Special responsibilities of the Red Cross this year are:

1. The Blood Program. The Red Cross is acting as official blood procurement agency for the armed forces, coordinating a nationwide blood program for civil defense, and continuing its regular peacetime program.

2. First Aid. The Red Cross

is undertaking the training of up to 20,000,000 persons in first aid.

3. Nurses' Aides and Home Nursing. The Red Cross is working to recruit and train



hundreds of thousands of nurses' aides for home nursing, for hospitals, blood centers, and emergency shelters.

While dollars are needed as in years past, this year dollars alone will not do the job. More volunteers are required.

ary trends. During the course of the year foreign trade was divided into two blocs, democratic and communistic. Virtually complete embargoes were declared on Russia and its satellites.

Domestic commerce was negligibly affected because emergency conditions at home left us little choice but to channel supply to the stateside market. Week by week, exports were increasingly limited to goods pledged by us to the Atlantic Pact nations.

The world situation in fact created the grimmest atmosphere business men ever had known. As tensions grew, private or personal interests were put aside.

Food supply last year was so ample that everyone knew where his next pound of sugar or box of detergent could be had. Farmers, who had produced unprecedented crops in '50, surpassed themselves in '51 and if there wasn't a chicken in every pot it was because the menu called for sugar-cured ham.

Americans, who had been eating more and better food since World War II, missed no meals and few dishes. Housewives found their budgets straining at the seams, but Uncle Sam himself came to their assistance. For the first time since John Hancock wrote his name large and clear, the federal Government issued bulletins advising housewives of the best values available in victuals.

Inevitably, many familiar articles went the way of all fluff. Cutbacks in metals practically put the slot-machine makers out of business (with their exits hastened anyway by the ban on interstate shipment of such destroyers of illusions) and juke boxes were rated nonetheless unessential.

One unexpected development in '51, among many, was the Government's action in putting priorities on new cars. Its hand was forced when defense workers were found to lack adequate transportation facilities in mushroomed areas. Although these priorities didn't absorb anything like the industry's output, they did put premiums on defense workers' time cards.

Optimists stopped waiting for color television and before they had eyed the Ides of March very long were out scrambling for popular brand sets. Dealers limited to quotas got full list prices and counted themselves lucky.

Actually television output was exceedingly well maintained, considering conditions, but demand knew no bounds, and by the end of the year another oldie reappeared on the scene, the tie-in sale.

If you wanted a television set you saw the wisdom of taking with it whatever the appliance dealer found wasn't moving.

Moreover, many a hapless customer took a console model when what he really wanted was a modest table set. Leading makes commanded premiums but also-rans didn't lack for takers.

In retail stores, departments handling scarcer goods contracted while those offering wares in greater abundance expanded. Food departments swelled conspicuously.

Labor stringencies and difficulties encouraged dry goods merchants to adopt self-service, cash-and-carry methods, and nobody seemed to object. Demand for automatic vending machines far exceeded cutback supply but gave plain hints of future intentions.

As the months pass, you may find my retrospective a bit at variance with events as you recall them, but whose memory is to be fully trusted? And how few recollections are identical?

All in all, I think you'll agree, 1951 was a year in which crises kept us all on our toes and apprehensions led us to be cautious enough to avoid damning mistakes.

Small business entered the defense production period prepared for a rough ride, but many of the bumps it saw ahead proved to be mirages.

Fearful of a squeeze between rising costs and shortages of materials and/or manpower, small business obtained relief from the former by way of controls and help in the latter by way of allocations.

Under the aegis of Charles E. Wilson, NPA assigned smaller plants their capacity shares of defense production, and firms that dreaded eking out a bare existence on subcontracting found their worries were needless.

Perhaps most satisfying on this imaginary day of Jan. 1, 1952, is the knowledge that the year in postdated review found American business able, ready and willing to meet every test and challenge.

Despite occasional and not unhealthy differences of opinion, labor and management were united as never before in the effort to preserve freedom's heritage.

By proving in 1951 that democracy could not only work to the satisfaction of every American, but to the envy of the oppressed, 1951 was counted a good business year by all. For what the tax collector left us was more precious than what he gathered up. Liberty is priceless.

EXECUTIVE WANTED:

\$10,000 a year executive to sign 50,000 checks a year. Balance of time and energy to be devoted to management decisions. Applicant must have outstanding ability, proven record of achievement and good, legible signature.

If you saw an ad like this—wouldn't it make you stop and think? Are you—or other key men in your company—still signing checks *by hand*—wasting executive ability on a task handled in thousands of firms by the Todd Protectograph Signer?

A new time study survey, analyzing the financial loss due to hand signing of checks, shows that a \$25,000 a year executive, signing 2,000 checks a week, is wasting \$5,000 a year. And he's distributing 104,000 "samples" of his signature for crooks and forgers to copy.

Protect executive time, signatures, company funds—with a Todd Protectograph Signer that defies duplication by means of tamper-proof lock and non-resettable counter—and speeds up check issuance. Mail the coupon and we'll send you time study survey and full story of the Todd Signer.

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COMPANY, INC.

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THE TODD COMPANY, Inc., Dept. NB,
Rochester 3, N. Y.

Please send us a copy of the survey "Cost of Signing Checks by Hand"—without, of course, any cost or obligation on our part.

Firm _____

Address _____

City _____ Zone _____ State _____

By _____

NB-3-51

Slow Down, Old Man

(Continued from page 42)

end all around us. We crawled upward through the ragged timber, picking our way across the backbone of a ridge. Joe, who had started out as full of pep as a pointer pup, began to lag behind and call for frequent stops to rest. The combination of 10,000 feet elevation and muscles which had grown soft in the years he was getting his business in shape for this trip, were taking their toll sooner than I expected.

During one of the numerous pauses to rest, when Joe was stretched flat on his back, heaving for oxygen, Ed, our guide, motioned to me and I followed him out of earshot. He jerked a thumb toward Joe.

"I don't want a dead dude on my hands. Reckon he can make it?"

"He's got to make it," I said, "if we have to pack him up there on our backs. He's lived a lifetime for this."

A hundred yards at a time we negotiated that slope and late in the afternoon pulled into the last scrubby fringe of trees just under timberline. Ed had thoughtfully packed along some grub on the possibility that darkness might catch us far from camp, and we decided to spend the night there. We built a fire and Joe sat down beside it, puffing as if he'd run a mile uphill. When he ate his snack, he stretched out beside the campfire and went to sleep. I threw my slicker over him and all night Ed and I hovered at the fire dozing fitfully and keeping the flames alive.

By dawn some of Joe's color had flowed back into his face. He seemed a little better as we ate half the remainder of our grub for breakfast, put out the fire and crawled on up the slope into sheep country. On our bellies we slithered into a high, barren gap, formed by jagged walls of rimrock, and after a few minutes the guide whispered under his breath.

"There they are!"

A band of nine rams came out of a rolling canyon, grazing slowly around the mountain side, in toward a jumbled rock slide that broke obliquely away from the rimrock base.

Cautioning us to stay

down, Ed backed off the slope and under the brow of the hill, stood up. He cut his eyes at Joe, but spoke to me.

"By moving fast," he said, "we can get into the next break in the range and get a shot at them when they detour around that slide."

Joe's legs seemed suddenly to give way and he sat down between us so awkwardly that I thought he had fallen and reached over to catch him. He put his face in his hands.

"It's no use," he said. "This is as far as I can go."

The guide looked at me.

"You'd better stay with him," he said, "while I figure some way to get the horses up here around that canyon wall."

Joe took a couple of deep breaths and pulled his hat down on his forehead against the wind.

"Look," he said, "I'll be all right if I stay here and don't move around. If I can't make it, I'd rather kick off here than any place I know. If you two'll go get that lead ram for me, it'll be doing me the favor of my lifetime."

Ed hesitated. A guide is responsible for the lives of the dudes under his wing.

"I feel better," Joe said. "Honest. I'll lie right here and watch through my glasses until you get back."

We left him there and made the long detour around the mountain. I looked back once. He was on his belly with the glasses to his eyes, watching the sheep. We circled a

mile to the next break in the rimrock. Lying flat, we searched the slope with our binoculars. Ed rubbed at the lobe of his ear.

"Something spooked those sheep," he said, "and they either got in ahead of us, or they lay down close under the rimrock, which is not likely at this time of day."

He swept his glasses around the slope again.

"The puzzling thing is—"

A flat report cracked along the rim like two hands slapped together. The guide sat upright, a startled look in his eyes.

"My God—"

I followed him back under the rim at a half run. My only thought was that Joe's despondency had caught up with him at last. We climbed the mountain to the gap where we had left Joe. From half a mile away we could see him lying on his back with his arms outstretched.

When we reached him I was almost ready for the iron lung myself, but he sat up, like the gods had handed him a herd of mountain sheep on a silver platter.

"I figured I'd better lie down," he said, "so the excitement wouldn't be too much."

"The shot—" Ed gasped.

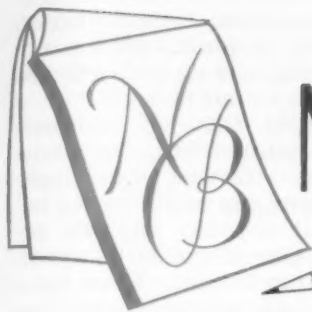
Joe pointed. Seventy yards away on the rolling slope, lay a big ram. While we had been on our mission to head them off, the bunch had turned back and crossed over the mountain through the very gap in which we had left our ailing hunter.

That story had a happy ending. By slow stages we got Joe out of the mountains with his sheep. The bighorn trophy is over Joe's fireplace today, and he points to it as a proud example of how, by recognizing the limitations of his years, he inadvertently capitalized on them.

Both middle and old age are, of course, figurative. With each individual it comes at a different period in his life.

I've been hunting in the woods with men 20 years older who could walk the soles right off my feet. But by stopping before I get too tired, and traveling only half as far as I once did, I know I may look forward to having either a gun or a fishing rod in my hand when I knock on the pearly gate and old St. Pete looks over my gear and asks, "Well—what's your alibi?"





NOTEBOOK

Your new boss

UNCLE SAM is now embarking on the task of managing, in detail, the greatest private enterprise economy in history.

Economic controls have been operating for months, as most business men know, but the big step is just ahead—manpower controls.

What you as a consumer, an employer, or employee may or may not do can be seen by looking backward a few years to World War II. The pattern, on paper, is not much different.

Even now, as a consumer, you cannot buy a house, a car, or a refrigerator on terms the seller may be willing to give you. The Government has set the minimum terms for these transactions.

Taxes, of course, are a form of controls that are also designed to lessen demand for goods.

As a manufacturer, you have to take a defense order if you are told to do so, even though it may mean cutting off some customers who have been patronizing you for years. If materials are scarce, the Government will see that you get what you need for defense orders. That means fewer civilian goods made from that kind of material.

Did you plan to buy 100 shares of General Widgets, Inc., at \$10 a share? Only recently your broker would have asked for \$500 cash and his commission. Now you have to put up \$750.

Soon the Government may tell you the maximum price for everything you buy or sell. As a buyer you may have been demanding these price ceilings. Are you equally willing to take the next step—rationing? Officials "hope" to avoid rationing, but the experts will tell you that effective price ceilings on commodities like meat cannot be held long without rationing.

As an employee you probably will not be able to get a pay raise in your present job without government approval. There will be ways to make more money legitimately, like working longer hours, getting

a promotion, or transferring to a better job. But increases in pay rates for the same work are going to be few and far between.

As a pensioner on small fixed income, you probably will have to lower your standard of living or take a light job to supplement your income.

As a farmer you may see the prices of goods you buy go up, but as an offset you can charge more for what you sell. The law will not let stabilization officials set a ceiling on farm products below parity.

As an employer who hires labor, or a man or woman looking for a job, you will have some guidance and help from the Government. Eventually there will be controls and restrictions for the few who refuse to cooperate, but manpower experts do not believe it ever will be necessary, or practicable, to tell a United States citizen where he must work.

We are already in a war of production. The willingness to do what is best, as distinguished from being forced to do what one is told, may be the difference between winning and losing. Take your pick.

Predicting the future

A STUDY of the business and financial scene can turn up a few indications that the world is not yet near its end.

Prime example for this case study is the Carolina Power and Light Company. The lads of the utility expect to be around for a bit. They're continuing their policy of growing their own light poles by setting out 200,000 seedlings. In only 25 or 30 years they'll get their poles, too.

For a bit more evidence, take the cycle lads. Their charts indicate that international war shouldn't be with us until 1958-68. The picture isn't entirely hopeful because the same charts indicate the next depression will arrive in 1952.

For the individual approach, there's Franz Pick. This expert on world currencies has been keeping

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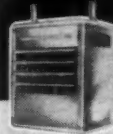
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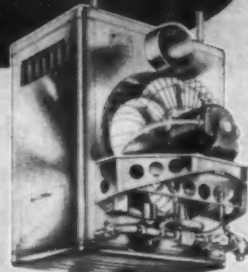
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an eye on the price of gold and has maintained stoutly that it points to some peaceful solution for the current mess.

On the line

THE brokerage colossus, Merrill Lynch, has enough offices sprinkled around so that anything can happen. There is, for instance, the customer who traded through the firm for three years without ever giving them his own phone number so they could call him.

Finally, when curiosity got the better of the lads, they put the growing mystery squarely up to the client. The answer was simple; they couldn't call him because he had no phone. He worked as a phone lineman and did his buying and selling while he was working on a pole testing the phone lines.

Back to school

A BELIEF that professors in engineering schools should spend a year in industry has been voiced by Granville M. Read, chief engineer of E. I. du Pont de Nemours and Company, and he's made a concrete offer to provide places for some of them. Read urges educators to "come and work with us in industry."

Offering to take into the du Pont engineering department several professors from engineering schools, he proposed "giving them 12 months experience throughout our entire engineering organization. We will pay them their regular salaries plus reasonable expenses."

"This is no Santa Claus proposition," Read declared.

"The specific details of how many professors will be chosen, where they are to come from, and when, have not been worked out but industry has a profound interest and responsibility in contributing to the support of colleges and universities.

"This is a sincere and earnest offer of one practical way to better understanding for our mutual benefits."

Read also pointed out that new scientific discoveries and developments over the past century have opened up vast new fields for engineers. Today an engineer has many fields in which to practice his chosen specialty, but his training would be made a lot more valuable if those who teach him were aware of the viewpoints and problems of industry.

In the face of the great surge of specialization, Read commented,

"there is an even more urgent need for broad-gauge executive leaders with vision and a goodly quantity of the humanities. It is my belief that the key to quality leadership for our nation and its industries is in the hands of our colleges."

"But to use this key successfully," he pointed out, "our colleges must clearly understand their problem, not as it used to be, but what it is today and will be tomorrow. One of the best ways of acquiring this insight," Read concluded, "is by working with industry and absorbing its know-how and an understanding of its problems."

Bonus

ONE factory up Connecticut way lists two extra holidays a year for its workers. The hired hands either get their birthday as a holiday, or can work for double pay. The other special holiday is the anniversary of their employment; on that day they get a ten dollar bill each year.

Confusion?

THERE are pitfalls in having a branch bank in a foreign language section of New York, as Dollar Savings Bank people found out.

One of the customers brought in a check and Dollar agreed to put it into commercial bank channels for collection. It cleared the local office of the Depository Commercial Bank and ran into a snag at the head office. As the memorandum read:

"We are returning, herewith, item received under your No. 483 which you described as a check in the amount of 300 pesos drawn on Banco de la Felicidad.

"This is merely a Christmas greeting card for 300 kisses drawn on the Bank of Happiness."

Assignment: Glass

THE efforts to which industry goes to make life a bit easier are matters of business. Each evolution of a product brings greater returns. But, it is the little things that sometimes tear at the heartstrings.

Down Beaumont, Texas way, a physician was baffled by his inability and that of his laboratory technician to remove a "BB" shot lodged deep in the eardrum of a child. It had been an accident, but an operation might prove of serious consequences.

And, to whom did the surgeon appeal for help?

A glass blower employed by the Magnolia Petroleum Company,

an affiliate of Socony-Vacuum Oil.

Fashioning a replica of a human skull, the glass blower went to work. His job was to make an instrument that could remove the shot from the ear. Imagine that setting: An almost human skull grinning up at the men hovering over the bench . . . three men speaking in soft tones and occasionally examining the hollows of the skull.

Then for almost an hour not a word was spoken. The only sound was that of the glass blower's torch as he made attempts to get the right dimensions. Finally, he fitted the ear and the "BB" shot.

P.S.—Just before Christmas the physician successfully removed the shot.

The glass blower? A chemist by the name of John Jordan.

Warning

FACED with the loss of from ten to 15 per cent of their employees to the military service in case of total mobilization, public personnel agencies are acting to prevent the manpower shortage from curtailing needed public service operations.

A recent survey by the Civil Service Assembly of what personnel agencies were doing to prepare for all-out mobilization showed that nearly all agencies had inventories under way of the personnel subject to military service. Then too, emergency rules are being instituted to fill military leave vacancies.

Generally, it was found that approximately ten to 15 per cent of public employees were subject to call for military service. Almost without exception, the greater losses would occur in the fire and police departments. In Jefferson County, Ala., for example, about 150 of the 900 employees in the fire and police departments were found to be members of the National Guard or Reserve component. The Phoenix, Ariz., survey showed that about ten per cent—129—of the total personnel of the city is eligible for military service. The department of public works would be the hardest hit with 41, while the police and fire departments each have 34 employees who might be called.

Since Korea, 15 employees of San Diego, Cal., have entered military service. From the remaining total of 2,870, seven per cent are in the Reserves, less than one per cent are National Guardsmen and about three per cent are subject to the draft.



ΤΙ ΜΑΓΕΙΡΕΥΕΤΑΙ ΑΔΕΡΦΙ?*

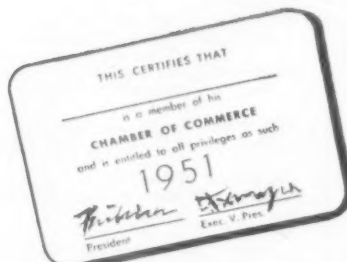
IN A defense economy such as ours there will be a flock of things that seem like Greek to many business men—things like allocations, priorities, roll backs and freezes. A company's existence can depend on how much it knows about such regulations.

It's here that your chamber of commerce is prepared to assist. Its contacts with other business groups—chambers of commerce and trade associations—should prove invaluable in keeping abreast of mobilization's facts of life.

But not all the chamber's work is in the field of information. It is concerned with bettering most every phase of community life—civil defense, playgrounds, schools, public safety, and a host of others.

Naturally, the more support the chamber receives, the better the job it can do—both as an informer and in bringing about worthwhile community improvements.

* What's cooking, brother?



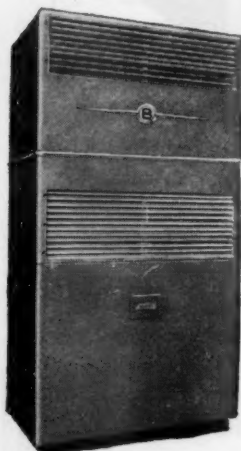
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